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General Notes on South Pacific Island Groups.

(vol. 1)

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date?

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(24) GENERAL NOTES ON THE SOCIETY GROUP.

Explorers and collectors who have visited this group include:

Bougainville visited Tahiti (in 1768); Commerson, naturalist.

Cook (1st voy.) visited Tahiti (April-July, 1769), with Sir Jos.

Banks, Dr. Solander, and Sidney Parkinson.

Cook (2d voy.) visited Tahiti, Huaheine, Raiatea, Tahaa, Motuiti,

- (in 177--), with the Forsters and Dr. Sparrman.

Cook (3d voy.) visited Tahiti, Moorea, Bolabola (in 1776?), with

Wm. Ellis, draughtsman, who made drawings, but apparently preserved no specimens.

Vancouver visited Tahiti in 179--, with Archibald Menzies as surgeon (and semi-naturalist).

Voyage of the 'Coquille' visited Tahiti (May, 1823) and Bola-

bola; R. P. Lesson and P. Garnot, naturalists.

Kotzebue (2d voy.) visited Society Ids. in 182--; Eschscholtz

appears to have been naturalist.

Voyage of the 'Beagle' visited Tahiti, in 183--; Chas. Darwin

accompanied it.

Voyage of the 'Vénus' (under Capt. Abel du Petit-Thouars), vis-

ited Tahiti, Aug. 29-Sept. 17, 1838; Dr. Néboux, surgeon

(and naturalist?).

Voyage of 'Astrolabe' and 'Zélée' (under Capt. J. Dumont d'Ur-

ville) visited Tahiti (Aug.-Sept., 1838); Hombron and Jac-

quinot, naturalists.

Voyage of the 'Sulphur' (under Sir Edward Belcher) visited Tahiti April 5-May 8, 1840; Dr. Hinds collected specimens.

U. S. Exploring Expedition visited Tahiti, Bellingshausen, Moorea, in 183--; Peale and Pickering, naturalists.

Voyage of the 'Novara' visited Tahiti about 1857-59; Johann Zelebor, naturalist, and von Hochstetter and von Frauenfeld also accompanied it.

Voyage of the 'Challenger' visited Tahiti about 1872-76; H. N. Moseley was one of the naturalists.

Agassiz Expedition to the Tropical Pacific, visited Tahiti, Bolabola, Maitea, in 1899; Dr. C. H. Townsend, naturalist. He spent a half hour on Maitea (or Mehetia), but was apparently occupied in making observations for Agassiz, for he only shot one bird, a booby. He thinks it "may be worth a careful examination by the ornithologist." On Bolabola he spent "a whole afternoon of diligent exploration" for birds, but found only three land species--one of them introduced. This island is said to be difficult to travel over, owing to the nature of the surface, hence more time will be necessary to examine it thoroughly.

F. D. Bennett visited Tahiti, Raiatea, and Tahaa, in 183--. Of the last named, he says (I, p. 163) "some of the land birds which inhabit the more interior and elevated woods have a

varied and gaudy plumage; while others, with a more sombre garment, possess a melodious voice, not unlike that of our thrush or blackbird; but neither kind is sufficiently numerous to repay the exertions of the sportsman or ornithologist."

Andrew Garrett collected on Raiatea, Huaheine, Bolabola, Motuiti? and Moorea, though he does not seem to have done much on some of them; probably he had the same sentiments as expressed by Bennett in the preceding paragraph.

James H. Wodehouse (Brit. Consul at Raiatea) sent 10 species of birds from Huaheine and Raiatea to London, about 1863, but they were collected by Garrett (doubtless the Andrew Garrett mentioned above).

M. J. Nicoll visited Tahiti (March 30-April 17, 1903), in the Earl of Crawford's yacht, but "On applying for leave to shoot, I was much disappointed to be told that a law had just been passed to forbid the killing of birds, and that the Governor was "unable" to make an exception in my favor." Nicoll says (of Tahiti) "I saw very few birds of any sort about the seaboard, and it was stated that of late years the rats had killed nearly all of them."

Scott B. Wilson visited Tahiti and Bolabola in 1904, a year after Nicoll, and with the aid of the Brit. Consul got a "permis

special" from the Acting Governor.

Odd material has come from this group from one Young, Lt. Marolles, and sailors, etc.

Most of the naturalists who have visited Tahiti have added little or nothing to a knowledge of its ornithology, and few of them appear to have ventured into the mountains. A careful examination of the latter will bring to light more information regarding the Tubinares mentioned by Peale, but also perhaps disclose several unknown genera of forest birds, such as was done in the island of Hawaii a few years ago. The avifauna of Hawaii was long looked upon as fairly well "known", but upon applying modern collecting methods to it about ten hitherto unknown genera were brought to light, and some of the supposed extinct species were found to still exist in small numbers. The same experience is likely to be repeated on any of the larger or well-forested islands in Polynesia. Somewhere on the island of Tahiti there may be found a suitable tract, marsh or water-surrounded spot, where cats and pigs have not yet quite exterminated some of the species found by Forster and early visitors.

There are only a few records from Bellingshausen and Tubai, one each from Marua and Maitea, with none at all from Mopeha, Tapamamu, and Tetuaroa (except possibly a lory). Maitea seems a ~~seems a~~ likely place for some of the old species described by

(24) Society Group. (French)

Nos. 1-5 = Windward (or Georgian) group.

Nos. 6-13 = Leeward (or Society) group.

Climate hot and moist, but healthy.

Gov't accounts in francs, but business until recently carried on in Chilian dollars. (no Chilian coinage may now be imported into the ids.).

Said to be all volcanic in origin.

Aimeo [= Eimeo]

Amat (Isla d') [= Bonecheo's name for Tahiti.]

Auera (islet of Marua, n. w. side.

13. Bellingshausen (atoll; 4 low coral ids.; closed lagoon; coco-nuts and other vegetation; about 3 mi. diam.; uninhab. "Birds are very abundant and very tame." In good weather boats can land on the W. N. W. side.

9. Bolabola { 7 mi. x 5.5 mi.; Mt. Pahia wooded and 2416 ft.; Mt. Temanu is 2379 ft.; more craggy than other Society ids.; E. side has a barren appearance, but W. side is more fertile; inhab.

Borabora (With 13 or more Islets: Teviaroca.

Tupua (in Teavamui harbor).
and others

Bolabola [= Borabora]

Boudoir (Le) [= ? Maitea]

Dezena [= Maitea]

Ducena [= Maitea]

Duke of York [= Moorea]

Eimayo [= Moorea]

Eimeo [= Moorea]

Emao [= Moorea]

Fatufatu (rocky islet of Tahaa.

Femua ino (wooded islet of Tahiti, opposite Tomotai valley.

Femua ura { atoll; circ. reef, with various small ids.; 6-7 mi. diam. closed lagoon; uninhab.

Scilly "Very low and dangerous."

Fugitiva (of Quiros) [May = Tetuaroa?]

George's [= Tahiti]

Georgian: name given by Cook to Tahiti and the s. e. group.

Haaio { volcanic islet on s. coast of Raiatea.

Horea { islet on w. coast Raiatea.

Howe [= Mopeha]

Huabane [= Huaheine]

6. Huaheine (20 mi. circ.; barrier reef surrounds id.; hilly
Huabane ({2331 ft. high); wooded (especially on n. part);
Huahine (inhab. Plenty of hogs, dogs and dom. fowls at large,
Vahine (as early as 1773.

(Islets: Maora (on e. reef)
Motu Pahare (on e. reef)
Peihi (on w. reef)
Taiahu (on e. reef)
Topati (on e. reef)
Vaiorea (on w. side)
Motu Vavara (on e. side)

Huahine [= Huaheine]

Huahine- iti (islet of Huaheine; inhab. and had hogs on it in 1822.
(May be a syn. of Peihi?)

Ile de la Reine [= Motu uta]

Imaio [= Eimeo]

Iriru (islet on s. side Faaroa bay, Raiatea.

Itiahi (islet at entrance of Maupiti Lagoon.

King George [= Tahiti]

Lord Howe [= Mopeha]

Low Id. [= Motu uta]

Mahea (islet of Tahaa.

Mahipoa [= Mopeha]

Maiaiti [= Tapamamu]

Maio [= Tapamanu]

Maioiti [= Tapamamu]

1. Maitea (7 mi. diam.; is a volc. peak about 1600 ft. high; coco-
(nut and other trees abound on e. side; with rocky islets
(off s. point; on e. and s. sides the slopes end in
(vertical cliffs; N. side is very steep; little or no
(level beach; now inhab. (Hydr. Pilot) Townsend says
("well forested", and "uninhabited".

?Boudoir (Le)

Dezena

Ducena

Mehetia

Mehitia

Osnaburg

Osnaburgh

?Pis de la Boudeuse.

San Cristobal

Manini ids. (off n. w. side of Bolabola.

Maora (islet on e. reef of Huaheine.

Maowroah [= Marua]

Mapeti (islet in Alfa pass, n. coast of Tahiti.

Marion [= Tupua]

Marna [= Marua]

11. Marua (7 x 5.5 mi.; volcanic; 830 ft. high; inhab.; has
 Maowrooah (reef with seven or more islets; hills wooded to
 Marna (summits; numerous rugged cliffs on coast; northern
 Maupili (islets on reef are mostly wooded.
 Maupiti Islets: Auera (on n. w. reef). Itiahi (at
 Maurau entrance to lagoon).
 Maurua Téapaa and Te Iti ahé (on s. e. side)
 Tuanae (on n. e. reef)

Mauti [= Tapamamu]

Maupili [= Mamua]

Maupiti [= Marua]

Maura [= Mopéha]

Maurau [= Marua]

Maurua [= Marua]

Mehetia [= Maitea]

Mehitia [= Maitea]

Mobidie [= Mopeha]

4. Moorea (rugged and mountainous; almost triangular; about 9 mi.
 (on a side; with barrier reef; one peak 4000 ft. high;
 (various others between 2000 and 3000 ft; thickly wooded,
 (tho some peaks are bare; inhab.; (fowls, goats and pigs
 (are wild in the mtns.).

Aimeo.

Duke of York.

Eimayo.

Eimeo.

Emao.

Imaio.

Morea.

Murea.

York.

12. Mopehá (10 x 4 mi.; atoll; many low ids. on a reef surrounding
 (a lagoon; on e. side of reef are many coconuts; on n.
 (and w. sides are numerous islets, many of them covered
 (with brush and various trees; inhab. at times by turtle
 (hunters.

Howe.

Lord Howe.

Mahipoa.

Maura.

Mobidie.

Mopelia.

Mopiha.

Mopelia [= Mopeha]

Mopiha [= Mopeha]

Morea [= Moorea]

Motea (islet at entrance to Hamene Bay, Tahaa.
 Motu Araara (islet off s. end of Huaheine.
 Motu Ahi (wooded islet of Moorea.
 Motu au (small wooded islet of Tahiti.
 Motu nono (wooded islet of Tahiti.
 Motu Pahare (see Pahare).
 Motu Puuru (wooded islet of Tahiti.
 Motuiti [= Tubai]
 Motu Oavarei (wooded islet off n. e. side of Huaheine.
 Motu Tehiri (islet of Tahiti.
 Motu uta (islet of Tahiti; has a battery on it, and is
 (planted with coconuts.

Ile de la Reine }
 Low Id. } synonyms of Motu uta.

Murea [= Moorea]

Nansouti (wooded islet on barrier reef of Tahiti.

Nansouty

Nansouty [= Nansouti]

Naonao (islet on s. reef of Raiatea.

La Nouvelle Cythère (of Bougainville) [= Tahiti]

Oatara (islet on extreme e. of reef of Raiatea.

Oputotara (islet of Tahiti, on s. end of barrier reef.

"Oriadea" [= Raiatea]

Osnaburg [= Maitea]

Osnaburgh [= Maitea]

Otaha [= Tahaa]

Otahaitee [= Tahiti]

Otahau [= Tahaa]

Otahaw [= Tahaa]

Otaheite [= Tahiti]

Otaheitee [= Tahiti]

Cumaitai (of Bougainville) [= Tetuaroa]

Pahare (islet on e. reef of Huaheine.

(or Motu Pahare)

Papeorea (islet on s. w. end of Huaheine; 60 ft. high;

(wooded; inhab? (possibly same as Vairea.)

Peihi (islet on w. reef of Huaheine.

Peregrino (of Quiros) [May = Fenua ura]

Pis de la Boudeuse [= ?Maitea]

Pitu u Uta) small islets at s. end of Bola Bola.

Pitu u Tai)

7. Raiatea { 30 mi. circ.; encircled by a reef; 3389 ft. high;
 { (of volcanic origin; inhab.; lofty and well-vegetated
 { (mnts. in the interior, with occasional naked cliffs
 { (and crags of black rock; highest peak has level plain
 { (on summit, covered with swamps, short grass and moss.
 { (On same reef with Tahaa.

Ioretea
"Oriadea"

Uliatea
Ulieta
Ulietea
Yoollee-Etea

Islets: Haaio (on s. coast)
Horea (on w. coast)
Iriru (on Faaroa bay)
Naonao (on s. reef - wooded)
Oatara (on e. reef)
Tahaa (on same reef with Raiatea)
Taoru
Tetaro (on n. e. of reef)
Tiano (on w. coast)
Tipamau (on Fairoa bay)
Toamaro (on W. side)
Torea (on w. coast) sandy islet

Sagittaria [= old name for Tahiti]

San Cristobal [= Maitea]

Saunders [= Tapamamu]

Scilly [= Fenua ura]

Sir Charles Saunders [= Tapamamu]

Tabuaimanu [= Tapamamu]

Tagiti (Bonecheo's name for Tahiti).

8. Tahaa (on same reef with Raiatea; volcanic origin; 1936 ft.
(high; inhab.; many islets on n. side; about half the
(size of Raiatea and not so fertile;

Otaha (about 15 mi. circ.

Otahau

Islets include, Fatufatu, Motea, Tautu,

Otahaw

Toahotu; many of them are wooded.

2. Tahiti (33 mi. long; high (Mt. Orohena 7320 ft.); wooded;
(guava bush (introduced) has spread over much of the
(land; inhab.; tops of most of the mtns. and ridges
(barren in Cook's time. (Natives had tame hogs, dogs
(and fowls when Cook was there in 1769. He said "wild
(fowls" were scarce and confined to a few species."
(Dogs, pigs and fowls occur in a wild state in the mtns.

Amat (Isla d')

Islets: Fenua ino.

George's.

Mapeti

King George.

Motu Nono (wooded)

Nouvelle Cythere

Motu uta

Otahaitee

Nansouti

Many small coral

Otaheite

Oputotara

islets on n. coast,

Otaheitee

Tiere

and covered with

Sagittaria

Veriararu

cocomuts.

Tagiti

Taiahu (islet on e. reef of Huaheine.

Taoro [= Taoru]

Taoru (islet of Raiatea.

Tapamanoa [= Tapamamu]

5. Tapamamu (6 mi. long; hill with double peak in centre (780 ft.)
(wooded to summits; lower ground with many coconuts;
(inhab.; once used as a penal settlement; barrier
(reef about 1 mi. from shore.

Maiaiti

Maio

Maiaiti

Maioiti

Mauiti

Saunders

Sir Charles Saunders

Tabuaimanu

Tapamanoa

Tapoca-manoo

Topoamaman

Tubuaimanu

Tapoca-manoo [= Tapamamu]

Tautu (islet on n. w. of outer reef of Tahaa.

Teanno [= Tiano]

Té Apaa (wooded? islet of Marua, on s. e. side)

Te Iti Ahé (islet on s. e. side of Marua.)

Tetaro (islet on n. e. of reef of Raiatea.

Tetaroa [= Tetuaroa]

Tethuroa [= Tetuaroa]

Tetiaroa [= Tetuaroa]

Tetiroah [= Tetuaroa]

3. Tetuaroa (reef surrounding a lagoon without entrance, with
(12 islets; atoll like those of Tuamotu group; small,
(low; uninhab. except at times by fishermen and im-
(ported labor; wooded (coconut trees, etc.) about
(6 mi. long by 3 mi. wide.

?Fugitiva

Oumaitai

Tetaroa

Tethuroa

Tetiaroa

Tetiroah

<p>{ Tootooteteroocha? Tubuititiruba? Tubutitiruha? }</p>	<p>These spellings all refer to one island, situated one day's sailing distance from Tahiti--probably Tetuaroa.</p>
---	---

Teveiroa [= Teviaroa]

Teviaroa (low islet of Bolabola, with scanty vegetation.

Tiano (islet on w. coast of Raiatea.

Teanno

Tiere (islet of Tahiti.

Tipaemau [= Tipamau]

Tipamau (islet at Fairoa Bay, Raiatea.

Toahotu (islet off Tahaa.

Toamaro (islet off w. side of Raiatea.

Toohooteteroocha (of Vigors) [= ? Tetuaroa]

Toopbai [= Tubai]

Topati (islet on e. reef of Huaheine.

Topoamanan [= Tapamanu]

Torea (islet on w. coast of Raiatea.

Tuanae (wooded islet on n. e. reef of Maupiti.

10. Tubai (several lagoon ids.; reef without opening; about
(4 x 4 ids.; coconuts; uninhab. except at intervals
(by fishermen and coconut gatherers.

Motuiti

Toopbai

Tupai

Tubuai manu [= Tapamanu]

Tubuititiruba [= ? Tetuaroa]

Tuhutitiruha (of Finsch) [= ? Tetuaroa]

Tupai [= Tubuai]

Tupua (wooded islet in Teavamu harbor, w. coast of Bolabola.

Marion.

Tupua iti (islet near Tupua.

Uliatea [= Raiatea]

Ulieta [= Raiatea]

Ulietea [= Raiatea]

Umaitia (of Bougainville) [= Tetuaroa]

Vahine [= Huaheine]

Vaiorea (islet on w. side of Huaheine (see Papeorea).

Vavara (islet on e. side of Huaheine.

(or Motu Vavara)

Veriararu (islet of Tahiti.

Yoclee-Etea [= Raiatea]

York [= Moorea]

(24) SOCIETY GROUP.

PHASIANIDAE.

Gallus tahitiensis Hartlaub. (type locality: Tahiti)

Gallus tahiticus Cassin, U. S. Expl. Exped., Mamm. & Orn.,
1858, 290, and text fig.

This wild fowl of Tahiti had certain characters (shape of comb, etc.) that caused Hartlaub and Cassin to bestow names on it. The latter says "In the Collection of the Expedition we find a well characterized specimen from Tahiti," but this bird was missing from the Museum as early as 1860 (or thereabouts) and has not yet come to light.

TRERONIDAE.

Bougainville (1768) found at Tahiti "green turtle doves" and "large pigeons of a deep blue plumage and excellent taste."

Ptilinopus purpuratus (Gmelin). (Type locality: "australis
intra tropicos.")

Moorea: Wilson got several.

Tahiti: Forster; Voy. 'Coquille'; Filleux; 'Challenger';
Townsend; Wilson, etc.

Wilson found it common in the Hitiaa district.

Ptilinopus chrysogaster Gray. (Type locality: "probably from
Otaheite" = Tahiti.)

Bolabola: Wilson?

Huaheine: Wodehouse; Garrett.

(24) SOCIETY OF...

REMARKS.

Salix repens (type locality: Tashkent).

Salix repens (type locality: Tashkent, N. S. 2000, 2000, 2000).

1922, 290, and text 11.

This wild form of Tashkent has certain characters (shape, etc.) that caused Hartman and Gussak to believe that the latter says "in the collection of the Tashkent we find well characterized specimens from Tashkent," but this is not the case. The specimen as early as 1850 (or thereabouts) and yet come to light.

REMARKS.

Hartmanville (1922) found at Tashkent "green maple leaves" large specimens of a deep blue plumage and excellent taste.

Salix repens (type locality: Tashkent).

Inter tropic.

Hartman: Wilson got several.

Tashkent: Potanin; Vay. 'Gussak'; Tashkent; Gussak.

Tashkent: Wilson, etc.

Wilson found it common in the Tashkent district.

Salix repens (type locality: Tashkent).

Tashkent: Tashkent.

Tashkent: Wilson.

Tashkent: Tashkent; Tashkent.

Raiatea: Forster?; Wodehouse; Garrett; Wilson.

Wilson says that on Bolabola and Raiatea he found a form of P. purpuratus "with more yellow" on the underparts. He probably referred to this species. Some of the earlier writers (Latham; Forster) refer to a bird from Raiatea that had a darker purple cap. (Cf. Wilesworth, Ibis, 1891, 571; Salvadori, Cat. Birds Brit. Mus., xxi, 1893, 108, note.)

?Serresius R. forsteri (Wagler). (Type locality: Tahiti.)

Tahiti: Forster.

Forster's description agrees fairly well with S. galeatus from the Marquesas Ids. (cf. Salvadori, Cat. Birds, xxi, 173, note), and Wilesworth recognizes it as the same. More material is required to settle this case, which may resolve itself into a stage of plumage of Globicera "wilkesi" - aurorae. The alleged species S.? R. forsteri is said to have ferruginous under tail-coverts, but there is no mention of the peculiar saddle-shaped feature (feathers projecting over the culmen) that pertains in the Marquesas bird. Immature birds of the Globicera aurorae may, in some stage of plumage, agree with the bird described by Forster, in which case the name R. forsteri (named for Johann Reinhold Forster) may have precedence over aurorae (there are earlier Columba forsteri's, but no earlier C. R. forsteri).

Globicera aurorae (Peale). (Type locality: "Aurora or Maitia Island, one of the Society Group." = Makatea or Aurora of

the Tuamotu group.)

Tahiti: Peale; Wilson.

The Peale party found this species in forests in the mountains, at altitudes of 3000 to 4000 feet; Wilson (in 1904) was the next man to find it. He thinks it rare and shy, in the district of Hitiaa (in July), and predicts its speedy extinction, as the natives are fond of its meat. Possibly the present laws prohibiting shooting of birds may also apply to this species, and give it a new lease on life.

Globicera wilkesi (Peale--type locality Tahiti) is said to be a synonym of G. auroræ (cf. Wetmore, 1919), and this is very likely true. A good series of both sexes and of various ages will help to clear up this matter, and also perhaps settle the case of the supposed Serresius R. forsteri; finally it will assist in proving whether the birds from Tahiti and "Aurora" Island are exactly the same.

?Globicera, species.

Peale says he "saw" G. "oceanica" at Moorea, where it is not known to occur. Possibly it was G. auroræ.

PERISTERIDAE.

(The ground pigeons of the genus Gallicolumba--formerly Phlegoenas--are old world representatives of our Geotrygon type. They are a plastic group, running into numerous forms and species in Polynesia, and are involved in much obscurity, owing to the

variations in plumage dependent on age and sex. Much more material will be needed to unravel them, if indeed it can be done at this late date, as a number of them are supposed to be extinct (owing to pigs and cats, etc.), and only drawings or descriptions left by early voyagers are available for comparison. Almost all of the species are rare in collections, and the birds are difficult to find, even when known to be present.)

Gallicolumba erythroptera (Gmelin). (Type locality: Moorea.)

"Eimeo" = Moorea: Latham (ex Banks Collection).

A specimen in the Leyden Museum, said to be of this species, may be the only specimen now extant.

Gallicolumba eimeensis (Gmelin). (Type locality: Moorea.)

Moorea: Latham.

Described as different from erythroptera, but very likely will prove to be a plumage of it.

Gallicolumba "pectoralis" (Ellis drawings, No. 71).

Moorea: Ellis.

No specimen extant, and identity not satisfactory. It is unlikely that two or three species of this genus ever occurred on one island, and it is more probable that immature and adult plumages are confused in these alleged species.

Gallicolumba "leucophrys" (of Wigglesworth).

Tahiti: Forster.

Wigglesworth recognizes this as distinct, as based on Forster,

but Salvadori places the Forster references under G. erythroptera, although he recognizes the Tahitian species as distinct, under the heading "Phlogoenas sp.", and says it is only known from Latham's account, based on a specimen in Sir Joseph Bank's collection.

Peale says "At Tahiti, the Garnet-winged Pigeon (Columba erythroptera, of Latham) was said to abound; they have in like manner been destroyed by cats introduced by early navigators, and since become wild, ...The Pigeons or Doves are now almost unknown, and the cats are driven to the necessity of feeding on lizards."

RAILLIDAE.

Porphyrio, species.

Raiatea: Garrett.

Known from two immature skins, only, according to Wigglesworth (p. 62), hence not identified as to species.

Hypotaenidia pacifica (Gmelin). (Type locality: Tahiti.)

Tahiti: Forster.

Probably not found since Forster's visit, and apparently no specimens exist in collections.

Porzana tahitiensis (Gmelin). (Type locality: Tahiti.)

Tahiti and adjacent islands: Forster.

Its status is that of the preceding.

PUFFINIDAE.

Pterodroma rostrata (Peale). (Type locality: Tahiti.)

Tahiti: Peale; Paris Mus. (ex Ribourt).

Peale found it nocturnal, and breeding in October, at 6000 feet, or more, in burrows. This was in the vicinity of volcanic peaks, high up the river Popino. The Peale party crossed the island from Point Venus, Malavai Bay, following the course of the Popino, and crossing lake Waharea to the opposite coast at Wairidi. At 6000 feet or more, they found the breeding places of Phaethon, "Petrels", and a "Thalassidroma."

? Pterodroma cooki (Gray). (Type locality: New Zealand.)

Raiatea: Garrett.

Puffinus pacificus, subspecies.

Moorea: Mus. Tristram; J. L. Green.

Mathews says P. "chlororhynchus" = P. pacificus, and that the Society and Phoenix groups possess a subspecies, which he does not name.

Puffinus species (var. of Procellaria gavia Forster).

Tahiti: Forster.

Forster was here Aug. 16 to Sept. 1, 1773, and April 22 to May 14, 1774.

Puffinus species (var. of Procellaria gavia Forster).

Raiatea: Forster.

Forster was here from May 24 to June 4, 1774. Wigglesworth suggests this may be the Procellaria "obscurus" of Gmelin, but says the descriptions (of this and the preceding) are not sufficient

for full identification. However, it appears there are (or were) two forms on these islands that Forster could discriminate as different from his P. gavia, although one of them may be equivalent to the subspecies of P. pacificus mentioned above.

HYDROBATIDAE.

Fregatta melanogastra (Gould).

Tahiti: Forster.

Under the name of Procellaria fregata Linn., Forster records it "ad littora insulae Otahaitee"; he was here Aug. 16 to Sept. 1, 1773, and from April 22 to May 14, 1774.

Oceanodroma fuliginosa (Gmelin). (Type locality: Tahiti.)

Tahiti: Latham.

? Tahaa: Bennett.

Wiglesworth (1891) says it is a "species not yet identified by any modern writer." He queried it as possibly the same as Bulweria macgillivrayi, but Stejneger (Proc. Nat. Mus., xvi, 1893, 620) determined it as a species of Oceanodroma, on the basis of a specimen obtained from Torishima, Japan, and Salvin (Cat. Birds Brit. Mus., xxv, 1896, 353) thought he was correct in this identification. The species is colored like O. homochroa, but is much larger.

Bennett refers to a "Procellaria fuliginosa" or "sooty petrel" he found at the island of Tahaa.

Oceanodroma? species.

Tahiti: Peale.

Peale refers to finding a species, which he said was allied to "Thalassidroma oceanica", in the mountains of Tahiti (6000 feet or more), in October, at the same locality where Pterodroma rostrata was found, but the specimens shot "fell in dense forests, thousands of feet below us", and were not found. They appeared to be breeding, but Peale did not find any nests. He described the birds as resembling oceanica, and says "rather larger, but all the under-parts were white." (Peale, 1848, p. 297.) On p. 156, he refers to the same species under another name, as T. pacifica.

LARIDAE.

Larus novae hollandiae Stephens.

Society Islands.?

A specimen in the Mainz Museum (seen by Saunders) is said to have come from the Society Islands, but the locality is in doubt.

Bennett (circa 1835) refers to "gulls" on Tahaa.

STERNIDAE.

Gygis alba pacifica (Lesson).

Society Islands: Forster, etc.

Bolabola: Forster.

Huaheine: Forster.

Raiatea: Young.

Tahiti: Forster; Young; Wilson.

Wilson found it fairly common.

Megalopterus melanogenys (Gray).

Raiatea: Young.

?Tahaa: Bennett.

Anous stolidus pileatus (Scopoli).

Society Islands: Forster; 'Novara' Exped., etc.

Bellingshausen: Peale.

Huaheine: Wodehouse.

Raiatea: Young.

Near Tahiti: Nicoll.

[A. stolidus unicolor (Nordmann) is differentiated by some authors for the Society and Tuamotu bird.]

Procelsterna cerulea teretirostris (Lafresnaye).

Raiatea: Young (recorded by Saunders).

Onychoprion lunatus (Peale). (Type locality: Kawehe, Tuamotus.)

Tahiti: Garrett (recorded by Saunders).

Thalasseus bergii rectirostris (Peale). (Type locality: Fijis.)

Huaheine: Wodehouse; Garrett.

Raiatea: Wodehouse; Garrett; Young.

SCOLOPACIDAE.

(G. Forster found "snipes" in "great plenty" along the shores and in the marshes on Raiatea, in Sept., 1773, and again in May, 1774.)

Phaeopus tahitiensis (Gmelin). (Type locality: Tahiti.)

Tahiti: Forster.

Prosobonia ellisi Sharpe. (Type locality: Moorea.)

Moorea: Ellis.

Sharpe based this species on a drawing made by Wm. W. Ellis, of a bird from "Eimeo" = Moorea. No specimens are known, and the bird is probably long since extinct. There is, and probably always will be, doubt as to whether this is a distinct form, or only a phase of plumage of the following.

Prosobonia leucoptera (Gmelin). (Type locality: Tahiti.)

Tahiti: Forster.

Only one ancient specimen extant, in the Leyden Museum.
The species probably long extinct.

Heteroscelus incanus (Gmelin). (Type locality: Moorea and
Palmerston Islands.)

Society Islands: Forster, etc.

Huaheine: Garrett; Gould collection; Wodehouse.

Raiatea: Forster; Bennett?

Tahaa: Bennett.

Tahiti: Forster; Liverpool Mus.; Peale; Wilson.

Bennett refers to a "Totanus" with blue legs, on Raiatea; probably this species.

CHARADRIIDAE.

Pluvialis dominica fulva (Gmelin). (Type locality: Tahiti.)

Society Islands: Forster; Garrett.

Tahiti: Forster.

ARDEIDAE.

Demigretta sacra sacra (Gmelin). (Type locality: Tahiti.)

Society Islands: various collectors.

Bolabola: Brit. Mus.

Huaheine: Forster; Wodehouse.

Raiatea: Forster.

Tahaa: Forster; Bennett.

Tahiti: Forster; Challenger exped.; Wilson.

Wilson found it fairly common.

Butorides stagnatilis (Gould).

Tahiti: Peale; Wilson.

Tahiti is the type locality of Peale's Ardea patruelis, a synonym of the above. Wilson found it at Lake Vairia, a crater lake, and along the mountain streams of Tahiti.

ANATIDAE.

?Chaulelasmus couesi Streets.

Tahiti: Forster.

Forster observed a species that he identified as a gad-wall, but it was most likely a resident species, and for the present can be conveniently carried under the above name, as Wigglesworth has done, though in all probability it will prove to

be different. (See note under next species.)

Anas superciliosa Gmelin. (Type locality: New Zealand.)

Huaheine: Forster; Garrett; Wodehouse.

Raiatea: Forster (in "great plenty").

Tahiti: Forster; Banks; Peale; Voy. 'Challenger';

Wilson; Townsend.

Georg Forster records "great flocks of ducks upon the lagoon" of Huaheine, on May 16, 1774; and also that Jos. Banks got three at "one shott" on April 15, 1769, at Tahiti.

Bennett says that a wild duck, differing in plumage from those of the coast, occurred at Vaihiria lake, on the highest mountain at the north end of Tahiti. Scott Wilson visited this crater lake, but mentions no unusual duck, though he found A. superciliosa fairly abundant in the district of Haapepe (in May), and "throughout the Tahiti group." Townsend saw A. superciliosa at Lake Vaihiria, though he did not collect any specimens. Wetmore recognizes the Society bird as subspecies pelewensis, but without Pelew birds for comparison.

PHAETHONTIDAE.

(Peale found at least one species breeding in the mountains of Tahiti.)

Phaethon rubricaudus Boddaert. (Type loc.: Mauritius.)

Society Ids.: Latham; Peale.

Tahaa: Bennett.

Phaëthon aethereus Linnaeus. (Type loc.: Ascension Id.)

Society Ids.: Latham; Peale.

Tahaa: Bennett.

?Phaëthon lepturus Daudin. (Type loc.: Mauritius.)

Tahiti: Nicoll--saw it at a distance, flying over
"forest-covered peaks."

SULIDAE.

Sula leucogastra plotus (Forster). (Type loc.: near N.
Caledonia.)

Bellingshausen: Peale.

Maitea or Mehetia: Townsend.

Sula piscator (Linnaeus). (Type loc.: China Seas.)

Society Ids.: Forster.

Bellingshausen: Peale.

Tahaa: Bennett.

FREGATIDAE.

Fregata ariel ariel (Gray). Lesser Frigate Bird.

Huaheine: Wodehouse.

Fregata, species.

Tahaa: Bennett.

Breeding at the time of Bennett's visit. This observer did not distinguish between the species of Frigate birds, and this reference may belong under the preceding species.

?BUTEONIDAE.

Townsend says he saw a "hawk" on Tahiti, where it had been

= *Circus*

introduced; he did not guess at the genus or species.

LORIIDAE.

Vini kuhli (Vigors). (Type loc.: "Toohooteteroocha" Id.)

?Tetuaroa. Vigors described the species from "Toohooteteroocha", said to be "situated a day's sail" from Tahiti. This name was changed to Tuhutitiruha by Finsch, and by others into Tubuititiruba. If this island is in the Society group, it probably is equivalent to Tetuaroa.

Ogilvie-Grant (Ibis, 1913, 347) says "It seems pretty certain that the true home of V. kuhli is the Society Group in the Islands of Tahiti, Borabora, etc., where it is probably now extinct, and that it must have been imported subsequently to the Fanning Group." He does not give his reasons for this conjecture, nor his authorities for its occurrence in the Society group. Lesson cites Borabora as a locality for the species, but this has probably been looked upon as an error of locality by recent authors.

The various small lories are favorite cage birds with the natives of various islands in Polynesia, and it will be difficult to establish the true homes of some of them. In this case, it is known that the bird was a native of Fanning Island at the time of its discovery, in 1798, and there is not much likelihood of its having been carried there before that time, unless by the ancestors of the Hawaiians, who may have brought birds with them on their voyage from the southwest.

Phigys solitarius (Suckow). (Type loc.: "island of Feejee.")

?Tahiti: Latham.

A Fijian species, introduced into the Tongas, and into Tahiti, if Latham was correct as to the locality.

Coriphilus peruvianus (Müller). (Type loc.: "Peru" = Tahiti).

Bolabola: Lesson; Garrett; Wilson; Townsend.

Huaheine: Gould collection.

Moorea: Garrett; Peale; Gray.

Raiatea:

Tahaa:

Tahiti: Forster; Peale; Garrett.

Had become extinct on Huaheine, Raiatea, and Tahaa by or before 1874 (Garrett); and Wilson says (1904) it is "without doubt" extinct on Moorea and Tahiti, but still occurs on Bolabola. Wilson was assured that a paroquet existed on Moorea a few years anterior to 1904.

Wilson has described a C. cyaneus (later cyanescens) from Bolabola, but it proves to be the immature of the above (all blue, without white throat).

PSITTACIDAE.

Cyanoramphus erythronotus (Kuhl). (Type locality: "Nova

Hollandia" = Tahiti).

Raiatea: Forster.

Tahiti: Banks; Forster; Marolles.

The type was in Brit. Mus. (ex Bullock Mus.) at the time

Kuhl described it, but has disappeared; one other is now in that museum, and two in Liverpool Museum (one of them coll. by Banks, and possibly the type); Lieut. Marolles got four or five at Tahiti about 1844, and this is the last record.

?Cyanoramphus magnirostris Forbes and Robinson. (Type

Locality: Tahiti?.)

?Tahiti:

Based on an ancient specimen in Liverpool Museum. Salvadori (Ibis, 1907, 315) thinks it requires further examination.

?Cyanoramphus ulietanus (Gmelin). (Type locality: Raiatea.)

?Raiatea ("Ulietea"): Latham.

One specimen in London, and another in Vienna (the latter, type of Latham's description), are the only ones known. Wigglesworth thinks that if it actually came from Raiatea, it may prove to be the young of C. erythronotus.

?Cyanoramphus cyanurus Salvadori.

?Tahiti: Mus. Liverpool.

Salvadori is inclined to question this locality (Ibis, 1907, 316). The species occurs on Raoul, Meyer, and Macaulay Islands, in the Kermadec group, where "wild" cats have snuffed it out on at least one of the islands.

CUCULIDAE.

Urodynamis taitensis taitensis (Sparrman). (Type locality:

Tahiti.)

Bolabola: Lesson.

Huaheine: Forster; Wodehouse.

Tahiti: Forster.

?TYTONIDAE.

?Tyto alba lulu (Peale).

"Tupai": Forster.

This is doubtless the island Tubai or Motuiti, a few miles n. by w. of Bolabola, and apparently the only record of an owl for this group. The only other guess possible, is that Tubuai, in the Austral group is meant.

MICROPODIDAE.

(Forster and other early visitors collected or recorded edible-nest swiftlets from Tahiti, but it is not possible at present to correctly place these records under the several species.)

Collocalia ocista Oberholser. (Type locality: Nukuhiva, Marquesas group.)

Tahiti: Townsend.

Collocalia leucophæa (Peale). (Type locality: Tahiti.)

Tahiti: Peale.

Collocalia thespesia Oberholser. (Type locality: Tahiti.)

Tahiti: Townsend.

Collocalia francica spodiopygia (Peale). (Type locality: Upolu.)

Tahiti: Peale.

Scott Wilson found one of these species in great numbers in a ravine near Papehūi (Aug. 27, 1904), where their nests were attached to rocks, but inaccessible. Birds of this genus appear thus far not to have been recorded from other islands in the group.

ALCEDINIDAE.

Todiramphus veneratus (Gmelin). (Type locality: Apia--
error= Tahiti.)

Bolabola: Lesson; Wilson (common).

Huaheine: Forster.

Raiatea: Forster.

Tahaa: Forster; Bennett?

Tahiti: Forster; Lesson; Peale; 'Challenger'; Townsend.

Apia, Samoa, has been alleged as the type locality, but the species does not occur there. Latham's type is in the Vienna Museum.

Possibly this is the form from Tahaa recorded by Bennett as "Alcedo rudis."

Todiramphus tutus (Gmelin). (Type locality: Tahiti.)

Bolabola: Lesson; Townsend; Wilson (common).

Huaheine: Wodehouse; Garrett.

Raiatea: Wodehouse; Garrett.

Tahiti: Latham; Lesson, etc.

"Tupuoi": Garrett.

Wilson (1904) found this species "common throughout the

Tahiti group." The island "Tupuoi" may be a corruption of Tubai (= Motuiti).

T. wiglesworthi Sharpe is a synonym of this species.

HIRUNDINIDAE.

Hypurolepis tahitica (Gmelin). (Type locality: Tahiti.)

Tahiti: Forster, etc.

Forster found it in the mountains.

MUSCICAPIDAE.

Pomarea nigra (Sparrman). (Type locality: Society Islands.)

Marua: Voy. 'Coquille'.

Tahiti: Forster; Peale, etc.

Forster described the ♂ as Muscicapa atra and the ♀ or immature as M. lutea.

SYLVIIDAE.

Conopoderas caffra (Sparrman). (Type locality: Tahiti.)

Huaheine: Wodehouse.

Moorea: Latham; Banks.

Raiatea: Forster; Garrett.

Tahiti: Sparrman?; Forster?; Lesson; Peale; 'Novara' exped.; Wilson.

Wilson (1904) found it fairly common in the Hitiaa district of Tahiti, but predicted that cats and "frequently occurring cyclones" will reduce it to extinction before many years have passed.

The name caffra has priority over longirostris, but it is

likely there are (or were) two or more forms on this group, since Conopoderas is quite plastic and easily splits up into races on various islands in other groups.

PLOCEIDAE. (Introduced species.)

Lonchura castaneothorax (Gould).

Bolabola: Townsend.

Tahiti: Townsend.

Aegintha temporalis (Latham).

Tahiti: Townsend.

STURNIDAE. (Introduced species.)

?Acridotheres tristis (Linnaeus).

Tahiti: Nicoll.

Nicoll says "Minahs (Gracula)" had been imported and were abundant; probably this species was intended.

?EULABETIDAE.

Aplonis? ulietensis (Gmelin). (Type locality: Raiatea.)

Raiatea: Forster.

Only known, apparently, from Forster's description and drawing. On the basis of the latter, Seebohm (Cat. Birds Brit. Mus., v, 277, note, pl. xvi) introduced the species as a Merula; but Sharpe (Cat. Birds, xiii, 135, note) found in an old mounted specimen what he thought might be the actual type of Gmelin's name, formerly in the Banks collection. This he named Aplonis inornata, though it had already apparently received the name A. mavornata Buller. Wigglesworth points out that the description

of Turdus ulietensis Gmelin (based on Latham) does not agree very closely with Sharpe's specimen, and he disposes of the case by continuing ulietensis as an Aplonis from Raiatea, of which no specimen is known, and recognizing A. inornata Sharpe as a species from an unknown locality in the South Seas.

(27) and (27a.) GENERAL NOTES ON TUAMOTU GROUP.

Byron (about 1765) visited the King George Ids. (Takapoto and Takaroa), and found on one of them "a great number of parrots and paroquets, and several other birds, with a beautiful kind of dove that was exceedingly tame." The flies were very troublesome here.

What the "parrots" and "paroquets" were is mere guess-work now; there are no modern records from either of these islands, though Townsend visited the near neighbor Tikei for a few hours.

Carteret, in 1767, visited one of the Duke of Gloucester Islands (either Amamuraro, Amamurunga, or Nukutapipi), and found "There were many birds upon it so tame, that they suffered themselves to be taken by hand." Doubtless sea-birds.

Bougainville, in March, 1768, found "thousands of birds were hovering about the shore" of Akiaki, which was covered with "level sand", with the interior thickly wooded. Commerson was his naturalist.

Cook, in 1769, found near (s. e. of) Reao, "a Large flock of birds; they had brown backs and white Bellies. They fly and make a noise like Stearings [= Terns], and are shaped like them, only something larger. Saw likewise some black Sheerwaters and Several Man-of-war birds." (April 2, 1769.) On April 3, he saw two "Birds like Albetrosses; they were all white except the Tips of their wings

and Tails." On April 7, at Reitoru (or "Bird") Island, he found Fregata and "several other sorts" of birds here. Banks, Solander, and Parkinson were with him on this voyage.

Cook (2d. voy.) visited Takaroa, April, 1774, with the Forsters and Sparrman.

Voyage of the 'Astrolabe' and 'Zélee', visited Mangareva in August, 1838; Hombron and Jacquinot, naturalists.

Voyage of the 'Sulphur', visited "Bow" or Hau Id., in 1840, and spent six weeks here or in the vicinity. Dr. Hinds did some collecting for Belcher the commander, but apparently not much.

Dr. Adolphe Lesson, in the 1830's, spent four years as a ship surgeon, cruising the South Seas, and occasionally sending specimens to his brother, the naturalist. Most of his birds appear to have come from Mangareva, where he found or learned of about 18 species, which he enumerated under vernacular or native names.

The U. S. Exploring Expedition visited a number of the islands in 1839: Ahii (Sept. 7), Aratika (Sept. 3), Arutua (Sept. 8), Pukapuka or "Dog" or "Honden" (Aug. 20, 21), Kawehe (Sept. 2), Makatea (Sept. 10), Manihi (Sept. 6), Napuka (Aug. 25), and Karaka (Aug. 30, 31). On some of these islands Peale and Pickering landed a couple of hours before sunset; on others they spent a couple of hours in the hottest part of the day; on one of them they were landed on a small islet apart from the main island, and on two of

them they were able to land on two successive days. On Pukaruha, Rangiroa, Reao, Tiaro, Tetopoto, Tikahau, and possibly others Wilkes found it inconvenient to permit the naturalists to land; nevertheless, Peale saw on Pukaruha "clumps of higher trees with close foliage", and "among them were large flocks of birds", doubtless sea-birds. He could also see birds on Tikahau. At Pukapuka (Honden), where he made two landings and brought away more memories than birds--having to swim to and from the boat--he says "the numbers of birds of various kinds found breeding there on the 20th of August were so great, that our readers would doubt the enumeration, were it attempted. The nests were on the trees, bushes, ground, and even amongst the masses of broken coral thrown up by the sea. ...The most conspicuous were "Frigate-birds," whose nests, constructed of a few sticks only, covered many of the trees by their number."

Andrew Garrett appears to have touched at Niau, and possibly other islands, though he probably did little bird work.

Lieut. MacFarlane, R. N., visited Ducie, in March, 1884.

The Agassiz Expedition of 1899-1900 cruised among the islands of this group, affording Dr. Townsend, the naturalist, a hasty shot at birds here and there, but this like most of the expeditions that preceded it was not primarily adjusted to land exploration, and bird collecting had to be done almost by stealth. On Makatea, for instance, Townsend says "Our stay was too brief to permit of

collecting more than a few yards from the shore", yet this island has "a length of five miles and is densely wooded, with many large trees." It is one "of the few elevated islands in the Paumotu, having a height of over 200 feet, with perpendicular cliffs along the north shore"; conditions that point to a somewhat different fauna from the low coral islands.

M. J. Nicoll visited Pitcairn in 1903, and Lieut. Vaughan, R. N., had sent a bird or two from the same island a few years before.

A. E. Stephen visited Henderson in Sept., 1907, and sent about 6 birds in spirits to the Australian Museum. D. R. Tait and J. R. Jamieson touched at the same island in 1912. They were all interested in other things than birds, and only picked up a few specimens.

The above probably covers a majority of the work done in the Tuamotu group--a group extending over a thousand miles of the Pacific, and numbering about 80 islands, mostly low and of coral formation, but varying more or less in places, and stretching from about 14° S. to 23° S. latitude. From this mass of islands we have bird records from about 23, only, leaving over 50 that are ornithologically unknown; and of the 23, there is not one that we can say is fully known. That these (and other Pacific) islands are not waiting in their primitive original condition to be explored at some time in the future is shown by the following

extracts from a recent press notice. The place involved is Hikueru or "Bird" Island, 6 x 3 miles in extent, well wooded except at east and southeast sides, and is the residence of the administrator of this district. It is also one of the ornithologically unknown islands.

"The opening of the pearl diving season, the great event of the year in the French settlements, comes in July. Diving is not permitted for two years in succession at the same island. The various pearl islands are opened in rotation. This means that all gear, stocks of merchandise and building material must be taken to a new island each year--no small undertaking when it is remembered that the coral atoll, which in ordinary times supports less than 200 persons, becomes in the diving season the abiding place of 2,500 or more. This year the open island is Hikueru, one of the Paumotu archipelago 400 miles to the eastward of Tahiti. Already this lonely atoll is taking on a metropolitan appearance. The profits to be gained come not only from the pearl-shell won from the lagoon, but from the sale of all kinds of wares dear to the native heart and from the providing of entertainment to refresh the weary diver and his women folk after the labors of the day are over. The average native diver wins a good sum from the bottom of the lagoon and much of it goes on expensive silk dresses for his wife and daughters, on the delectable canned goods of the "popaa" (white man) and on the "movies."

This year there are to be, it is said, three moving picture theaters, any number of motor cars for hire--the length of the roadway in Hikueru is less than a half mile, but that apparently does not make any difference--a brass band and, it is reported, electric lights along the "Great White Way" of this little ring of coral sand. Late advices indicate that the season this year at Hikueru will be the most active in many years. It is estimated there will be at least 1,000 divers at the island. These, together with their families and the traders with their staffs, will swell the population of the island during the season to nearly 4,000."

The length of the season is not stated, but it probably lasts for two or three months at least, which would bring it into conflict with the nesting season for sea birds. Whether the bird protection laws are suspended at this season to enable the traders to supply the natives with cheap fire-arms, is a question; but the din and bustle of men erecting movie theaters and trading places, with brass bands and similar noise-makers thrown in can hardly offer encouragement to the fauna of a small island.

Ducie, Oeno, Henderson, and Pitcairn, belong to England, and the British Consul at Tahiti has jurisdiction over Henderson, and possibly of the others.

(27) Tuamotu group. French (since 1880)

Ducie, Henderson, Oeno, and Pitcairn are outliers, belonging to Great Britain, and are enumerated beyond (as 27a). Also called "Dangerous" Archipelago, "Distant" Islands, "Low" Archipelago, "Paumotu" Archipelago, "Submissive" Islands; Tuamotu is the French official name; South Pacific navigators call the group "Motu". "Nearly all" of the ids. are inhab.; natives are nearly all Christianized, and "reported to be honest and trustworthy."

The ids. extend for nearly 1000 miles, from s. e. to n. w. Bad hurricanes swept many of the islands in Sept., 1877; Feb., 1878; and Jan., 1903; at the last date the "small brush-wood disappeared" on many of the ids.

Seat of government is at Rotoava, on Fakarawa.

Nos. 1-54 are in west group. } So numbered here, for convenience.
Nos. 55-76 are in east group. }
raro = leeward; runga = windward.

Aatao [= Angatau]

Actæon group (comprises Maturei vavao, Tenararo, Tenarunga, and Vehanga. The inhab. said to be (now or formerly) hostile.

(Brigham says names of ids. are much mixed on the charts.)

Amphitrite group.

Adventure [= Motutunga]

Agakanitai [= Agakautai]

Agakautai {islet of Mangareva.

Ahangatiu [= Angatau]

Ahangatou [= Angatau]

Ahe [= Ahii]

10. Ahii (14 x 7 mi.; low; coral; wooded; shallow lagoon, with Ahe. opening for small vessels on n. w. side; tempo-
Oahe. rarily inhab.

Peacock. The U. S. Expl. Exped. stopped here Sept. 7, 1839, for 3 hours, and Peale records "some clusters of very large trees with dense foliage of a dark green colour", also cocoanuts. He says "birds were not numerous", and consisted "of the same species found before."

Ahunii [= Ahumui]

Ahumui (of Brigham) [= Fangataufa.]

49. Ahumui (small, oval atoll; 3.7 mi. in diam; coral; deep, Ahunii. closed lagoon; hard wood occurs & probably
Byam. other trees; not inhab.
Byam Martin. 19° 37' S.; 140° 25' W.
Martin.

39. Akahaina (atoll 4 mi. long; low; closed lagoon; well wooded with palms; inhab.

Enterprise.

Fakahina.

Fakaina.

Predpriatie.

Akamaru (islet of Mangareva, with a "peak" on it.

Wainwright.

59. Akiaki (0.7 mi. diam.; coral; higher than any other id. of the Tuamotu group (vide Hydr. Pilot, tho Agassiz mentions only 15 ft.); no lagoon; well wooded; with

Lancier. Pandanus and hard wood trees; with areas of grass

Les Lanciers & bushes; inhab.; landing difficult.

Queen Charlotte

Thrum Cap.

37. Amamu (18 x 8 mi.; lagoon, with entrance at n. w. and s. w.

Möller. sides; wooded, except at n. w. and s. e. sides;

pandanus and cocoanuts at s. w. end, and cocoanut groves at n. e. end; inhab.

Amou (islet on outer reef of Mangareva.

Amphitrite group [= Actæon]

23. Anaa (19 x 6 mi.; closed lagoon (one poor passage for boats)

Anhar. id., made up of several closely set islets;

Chain. wooded all round, with many cocoanuts; inhab.

Great damage done by hurricane of Feb. 7, 1878.

38. Angatau (low; closed lagoon; wooded throughout, with many large

Aatao. trees and a few cocoanuts; inhab.; missionaries are

Ahangatiu. working here, but natives said to be almost savages.

Ahangatou.

Angatou.

Arackcheeff.

Arackcheff.

Araktcheef.

Araktchev.

Maroupo.

Nanatao.

Angatou [= Angatau.]

Anhar [= Anaa.]

Anonymous [= Tatakotopoto, a problematical id.]

Amamiaruga [= Amiamurunga]

51. Amamuraro (small atoll about 2.5 mi. long; of oblong shape,

Archangel. with small boat entrance into lagoon on n. w.

Heretua. side; reef on n. w. and s. w. sides; a sub-

San Miguel. merged reef on s. and w. sides; stunted trees and bushes in clumps on e. side only; some grass patches; uninhab.; in Duke of Gloucester group.

52. Amuamurunga (1.5 mi. diam.; 4 islets on reef; closed lagoon;
 Amuamaruga. five clumps of trees on the ids.; uninhab.;
 Coronados. "landing is impossible." In Duke of Gloucester
 Cuatro Coronados. group. Agassiz's plate 78 does not resemble
 Four Crowns. the above description, as he shows long strips
 Teku. of woods.
9. Apataki (coral atoll, 18 x 15 mi.; low; several entrances to lagoon;
 Hagemeister. wooded (and bush vegetation), dense in places,
 except at s. end; are now numerous islets on
 its reef; inhab.

Arackcheeff [= Angatau]
 Arackcheff [= Angatau]
 Araktcheef [= Angatau]
 Araktchev [= Angatau]
 Aratica [= Aratika]

17. Aratika (8 x 5 mi.; low; triangular in shape; lagoon, with
 Aratica. entrance at e. and w. sides; low reef on e., s.,
 Carls-Hof. and w. sides, making night visit dangerous; wooded
 Carlshoff. (more so than on Kawehe), especially at n. end; no
 Carlshov. perm. inhab.
 Karlshoff. Peale party landed at 2 p. m., and remained
 till sunset. They found some Tahitians present,
 collecting pearl shells. Peale's peristera pectoralis
 came from here; only 2 skins known, and identity still
 uncertain. Fish in lagoon said to be poisonous.

Archangel [= Amuamuraro]

5. Arutua (atoll 18 mi. diam., and nearly circular; low; lagoon with
 Rurick. entrance on e. side; cocoanut groves and brush on n.
 and part of e. sides, but s. and w. sides are bare, with
 much of reef submerged; numerous islets, chiefly on n.
 and e. sides; (natives had dogs in Peale's time);
 biting flies are troublesome. Pavete is an islet on
 s. side.

Peale party landed for 2 hours (after 2 p. m.),
 but Peale says nothing of birds in his journal (ms.
 journal in Library of Congress).

Aukena (islet of Mangareva.

Elson

Aura [= Kaukura]

Aurora [= Makatea]

Avatoru (wooded islet of Rangiroa (in lagoon? or near Avatoru Pass to it).

Barclay de Tolly [= Raroia]

Barrow [= Vanavana]

Bedford [= Tenararo]

Bedford [= Vehanga]

Belcher [= Taravai]

Betero reef [= Minerva reef]

Bird [= Hikueru]

Bird [= Reitoru]

Birnie, a low id., about 1 sailing day w. of Anaa; hard to place now!
 (Discovered in 1822)

Bligh [= Hereheretui?]
Bligh or Bligh's [= Tematangi]
Bow [= Hau]
Brander (wooded islet of Rangiroa, at Avatoru Pass.
Motoufara (syn. of preceding.)
Buyers Group [= Reiotoua]
Byam [= Ahumui]
Byam Martin [= Vairaatea]
Byam Martin [= Ahumui]
Cadmus [= Morane]
Carls-Hof [= Aratika]
Carlshoff [= Aratika]
Carlshov [= Aratika]
Carysfort [= Tureia]
Cavaki [= Kawehe]
Cecile (doubtful id., said to be in 15° 30' S., 148° 20' W.
Chain [= Anaa]
Cleremont de Tonnerre [= Reao]
Clerke [= Pukapuka]
Clerke [= Tatakoto]
Clerke [= Tekokoto]
Clute [= Hiti]
Cockburn [= Ahumui]
Collie [= Kamako]
Collis [= and may be misprint for Collie]
Cook Lagoon [= Vahitahi]
Coronados [= Cuatro Coronados]
Creig [= Niau]
Crescent [= Timoe]
Croker [= Heraiki]
Cuatro Coronados [= Amuamurunga]
Coronados
Cumberland [= Mamuhangi]
Dageraad [= Makatea]
Danger [= Pukapuka]
Dauahaida [= Dawhaida]
Dawahaidi [= Dawahaida]
Dawhaida [= Marokau]
Deans [= Rangiroa]
Disappointment [= Tetopoto]
Disappointment Ids. (of Byron) (consist of atolls Napuka and Tetopoto.
Dog [= Pukapuka]
Doubtful [= Tekokoto]
Duke of Gloucester (group of 3 atolls: Amuamurunga, Amuanuraro, and Nukutapi
Eao [= Hau]
Ebrill Id. [= Minerva reef]

- Ebrilles reef [= Minerva reef]
 Egmont [= Pukarunga]
 Egmont [= Tatakoto]
 Egmont [= Vairaatea]
 Elisabeth [= Toau]
 Eliza [= Hiti]
 Eliza (of Mauruc) [= Tepoto]
 Elizabeth [= Toau]
 Elson [= Aukena]
 Enterprise [= Akahaina]
 Estancelin [= Maturei vavao]
 22. Faaite (atoll 15 x 5 mi.; lagoon with entrance at n. w. end; well
 Faaiti. wooded near w. end, and some clumps of trees on n.
 Faiti. and n. e. parts; s. side is simply reef; inhab.
 Miloradowitch.
 Myloradowitch.
 Faaui [= Niau]
 Faaiti [= Faaite]
 Faith Id. (recorded in 21° 10' S., 138° 52' W., but not now recognized)
 Faiti [= Faaite]
 Fakahina [= Akahaina]
 Fakaina [= Akahaina]
 Fakarava [= Fakarawa]
 21. Fakarawa (atoll 32 x 10 mi.; with lagoon (2 entrances, at n. w.
 Fakarava. and s. e. ends) irregularly wooded; inhab., and
 Wittgenstein. station of French Resident. 6 small islets on s. w.
 side of reef; well wooded on n. and n. w. sides,
 including clumps of cocoanuts; e. and s. e. sides
 are wooded, but s. side less so. Hurricane of 1878
 did much damage to trees. Fish (various kinds) of
 lagoon said to be poisonous.
 73. Fangataufa (3.7 x 3 mi.; coral; low, with hillock at n. e. end;
 Ahumui deep lagoon, with no passage; no cocoanut trees, but
 Cockburn probably other trees occur; uninhab.
 Nganaiti 22° 12' S., 138° 42' W.
 Nganati.
 Ferneaux [= Furneaux]
 Fly [= Rangiroa]
 Four Crowns [= Amuamurunga]
 Four Facardins [= Vahitahi]
 Fumarua (islet of Rangiroa; about 350 yds. wide.
 Furneaux [= Marutea]
 Gambier [= Mangareva]
 Gambier group (consists of Mangareva and islets on its reefs).
 Gloucester [= Paraoa]
 Goodhope [= Rekareka]
 Greig [= Niau]

Hagemeister [= Apataki]

Hairiri [= Paraoa]

Hao [= Hau]

Haraiki [= Heraiki]

Hariri [= Paraoa]

Harp [= Hau]

Harpe [= Harp]

45. Hau (30 x 5 mi.; coral; lagoon, with many brushy islets round it;
 Bow. entrance to lagoon on middle of n. end; several cocoanut
 Eao. groves on e. and n. parts; inhab. It was (1899) well
 Hao. wooded on weather side, tho islets on lee side were gener-
 Harp. ally bare; much damage to vegetation by hurricane of Jan.,
 Harpe. 1903.
 Heyou.
 Ocheou.

Hekuera [= Hikuera]

Hennake [= Pukapuka]

Hemuake [= Pukapuka]

40. Heraiki (atoll 4 mi. long; rather higher than other ids.; well
 Croker wooded on n. end; good entrance to lagoon on s. w.
 Haraiki side; uninhab.
 San Quentin.

Hereheretue [= Hereheretui]

50. Hereheretui (3 mi. diam.; low; closed lagoon; thickly wooded, with
 Bligh? much dead timber; many grass strips near shores;
 Hereheretue inhab. (few). 19° 52' S., 145° 00' W. (Brigham
 San Pablo. gives 21° 40' W., 140° 38' W., but this is the
 St. Paul. position of Tematangi!)

Heretua [= Amamuraro]

Heueru [= Reitoru]

Heyou [= Hau]

Hikuera [= Reitoru]

Hikuero [= Hikueru]

41. Hikueru (atoll (4 or more islets) about 6 x 3 mi.; lagoon, with
 Bird. boat entrance; well wooded, except at e. and s. e.
 Hikueru. ends, where bare; inhab.; residence of administrator
 Melville. of this district.

27. Hiti (very small (about 2.2 mi. diam.) closed lagoon; uninhab.;
 in Raefsky group.

Clute.

Eliza.

Louise.

Ofiti.

Ohiti.

Holt [= Taenga]

Honden [= Pukapuka]

Houden [= Pukapuka]

Humphrey (alleged to be in 16° 52' S., 140° 30' W., but of doubtful
 existence.

Hermaeloff [= Taenga]

Kamaka [= Kamako]

Kamako (islet of Mangareva.

Collie.

Collis.

Kamaka.

Kemaka.

Karlshoff [= Aratika]

28. Katiu (15 x 7.5 mi.; very low atoll; lagoon with 2 openings, on Saken. n. w. and s. w. sides; wooded on s. or s. w. sides, other parts covered with brush and some cocoanut groves; few inhab.

Kauehi [= Kawehe]

6. Kaukura (24 x 8 mi.; lagoon with islets on reef; entrance near Aura. n. w. end; wooded on n. side, from end to end; inhab. Hurricane of 1878 devastated its vegetation; since then cocoanuts have been replanted.

Kawahi [= Kawehe]

Kawaka [= Hawehe]

18. Kawehe (12 x 9 mi.; very low (10 or 12 ft. high); open lagoon, with
 Cavahi. { entrance on s. side; wooded (cocoanuts (few), pandanus
 Kauehi. { trees, and lower vegetation), except at s. e. end;
 Kawahi. { inhab.
 Kawake { Peale party saw nos. of birds at some places, but
 Vincennes. { spent only two hours ashore; they heard Conopoderas.
 Kemaka [= Kamako] { The small wooded islet of Tutu is in lagoon.

King [= Taiaro]

King George group (name used for Takapoto and Takaroa).

?Sondergrond

Koutouseoff [= Makemo]

Krusenstern [= Tikahau]

Kurateke [= Vanavana]

Lagoon [= Nukutavake]

Lagoon (of Bligh) [= Tematangi]

Lagoon (of Cook) [= Vahitahi]

Lancier [= Akiaki]

Lazarev [= Matahiva]

Lazaroff [= Matahiva]

Les Lanciers [= Akiaki]

Lord Hood [= Marutea]

L'Ostange (of Duperrey) [= Nengonengo]

Louise (of Mauruc) [= Hiti]

Maitia [= Makatea]

Makapu (islet of Mangareva; near Akamaru.

Makaroa (islet of Mangareva; 479 ft. high; steep and rugged.

March.

Marsh.

3. Makatea (4.5 x 1.5 mi.; coral; 230 ft. high; has perpendicular cliffs (with many caverns) on n. e. and w. sides; Aurora. some stretches of sandy beach about 12 ft. high; no Dageraad. lagoon; densely wooded, with some large trees and Maitia. cocoanuts, and other vegetation, including under-Makattea. growth; inhab. Matia. The Ocean Phosphate Co. has a station here for min-Metia. Recreation. ing phosphates. Weekly steamer connection with Tahiti.

Makattea [= Makatea]

29. Makemo (atoll 40 x 6-7 mi.; very low (14 or more ft. high at n. e. Koutousoff. end); lagoon (opening on n. e. & w. sides); wooded Makemu. on whole n. e. side, but s. side is bare; numerous Makima. islets on reef surrounding lagoon; inhab. Pigs Philip. were kept here long since. Phillips.

Makemu [= Makemo]

Makima (of Wilkes) [= Makemo]

Maliva [= Matahiva]

44. Manaka (10 x 4 mi.; closed lagoon; some vegetation on e. side, Ravahere. but w. side is bare; separated by narrow channel from Two Groups. Marokau; uninhab. Has some islets. 18°18' S., 142°12' W. 74. Mangareva (coral reef, with 5 small volcanic ids. and many islets; Gambier. 4 mi. long; 3 passages into lagoon; Mt. Duff 1315 ft. Peard. high; good fresh water; inhab. Pearl. Mangareva is the principal id. It has some sand

beaches; bushes, cocoanuts and other vegetation in patches on shore, but forests are reduced to a few patches in valleys and on some volcanic slopes. Both Mangareva and its islets are largely covered with a species of cane. Akamaru, Mekiro, and Makapu are within a fringing reef; Aukena is also fringed by an extensive reef.

The principal ids. of the group are in central part of the lagoon; 4 larger (inhab.) ids. are Mangareva, Taravai, Aukena, and Akamaru. Some (at least) of the islets have dense shrubby vegetation, with some cocoanuts. Taravai is flanked by Agakautai, with Tepu nui at the west; Akamaru is flanked by Mekiro to the north and by Makapu to the south. In the southern part of the lagoon are 4 small volcanic ids. On the outer encircling reef is a line of islets on the eastern face of the group: Takava and Tauna, Tarauru-roa, Amou, Vaiatekeua, Puaumu, and several smaller islets. Vaiatekeua has long stretches of sand beach, mingled with bushes on the lagoon side.

Agassiz (Mem. Mus. Comp. Zool., xxxiii, 1906) gives many views of these ids.; he says the fauna is very poor, with only one "indigenous" bird, a "sandpiper", and sea birds few in number. However, he was not strong on ornithology.

Manhii [= Manihi]

11. Manihi (15 x 6 mi.; numerous islets on atoll, with lagoon (opening
 Manhi. for vessels at s. w. end); many cocoanuts; has wooded
 Oahe. islet in lagoon; inhab. Peale found numerous clusters
 Waterland. of cocoanuts and "considerable other vegetation"; his
 Waterlandt. party spent 2 hours here (noon to 2 p. m.), and found
 Wilson. easy landing on lee side of id. They saw what was
 probably Peristera pectoralis here and found "snipes"
 (possibly Tringa parvirostris?).

47. Mamuhangi (6 x 1.2 mi.; low; closed lagoon; wooded, except on s. w.
 Cumberland. side; uninhab.

Mamuwangi.

Mamui (islet of Mangareva.

Mamuwangi [= Mamuhangi]

Marakau [= Marokau]

March [= Makaroa]

Margaret [= Nukutapipi]

Maria [= Moerenhout]

43. Marokau (about 10 mi. long; with 2 islets on e. side of reef; lagoon;

Dauahaida. has 1 or 2 reefs fringing it; wooded for whole length;

Dawahaidi. narrow passage betw. it and Manaka (s. of Marokau);

Dawhaida. inhab. Hurricane of Jan., 1903, did damage here.

Marakau. 18° 05' S., 142° 15' W.

Ravahere.

Two Groups.

Maroupo [= Angatau]

Marsh [= Makaroa]

Martin [= Ahunui]

- Marutea (20 x 10 mi.; low atoll of several islets; lagoon, with entrance

Ferneaux. at n. e. extreme; thickly wooded islet at n. e. end; no

Ferneaux. permanent inhab. This id. is "one of the most dangerous
 in the archipelago." 16° 54' S., 143° 20' W.

69. Marutea (11 x 7 mi.; atoll; closed lagoon, with several islets;

Lord Hood. variety of evergreen trees thickly intertwined; also
 pandanus; "matted surface of moss and grass" beneath
 the trees; uninhab. 21° 31' S., 135° 38' W.

- 1 Matahiva (about 7 mi. long; triangular; about 12 ft. high; lagoon,

Lazarev. with entrance at n. w. end; well wooded with cocoanut &

Lazareff. other trees; inhab. at certain seasons.

Lazaroff.

Malivi.

Mataiwa.

Mataiwa [- Matahiva]

Matia [- Makatea]

Matilda [- Mururoa]

70. Maturei vavao (s. e.-most of Actæon group; 6 mi. long; sea washes

Estancelin. all over it in bad weather; no entrance to lagoon;

Melbourne. wooded, except on w. side; no permanent inhab.

Mekiro (islet of Mangareva.

Melbourne [= Maturei vavao]

Melbourne [= Tenarunga]

Melville [= Hikueru]

Merrill (of doubtful existence, alleged to be in $16^{\circ} 38' S.$, $141^{\circ} 0' W.$

Metia [= Makatea]

Miloradowitch [= Faaite]

Minerva [= Pukaruha]

Minerva reef (said to be "low rocks" in about $22^{\circ} 30' S.$, $133^{\circ} 30' W.$,
(but "existence doubtful."

Bertero.

Ebrill Id.

Ebrilles.

Minto [= Vehanga]

72. Moerenhout (11 x 4.7 mi.; cluster of small, low, coral islets, with
Maria. closed lagoon in centre; has a variety of

Wright's Lagoon. shrubs and trees; uninhab., except for occa-
sional pearl fishers.

Mohican (small islet of Rangiroa, at Avatoru Pass; covered with low vege-
tation, and a few cocoanuts.

Möller [= Amamu]

75. Morane (5 x 2.5 mi.; low coral atoll, with closed lagoon reef; with
Cadmus. 3 islets; about a dozen inhab., who cultivate a few coco-

Morone. nuts. Middle of n.-most id. $23^{\circ} 11' 00'' S.$, $137^{\circ} 11' 30'' W$

Morone [= Morane]

Motoufara [= Brander]

Motu Teiko (islet of Mangareva.

24. Motutunga (atoll 8 x 5 mi.; lagoon, with entrance on n. w. side; s.

Adventure. side without vegetation, but n. side is wooded in
clumps for whole length; cocoanuts, etc.; uninhab.,
except when cocoanuts are gathered, etc.

Mururea [= Mururoa]

71. Mururoa (atoll of 18 low ids.; 15 x 8 mi.; reef enclosing lagoon,

Matilda. with entrance at n. w. end of lagoon; many of the ids.

Mururea. are wooded; large plantations of cocoanuts made by a

Osnaburgh. company, to whom the ids. were "assigned in 1876"; inhab.

Vairaatea.

Myloradowitch [= Miloradowitch]

Nairsa [= Rangiroa]

Nanatao [= Angatau]

16. Napuka (a series of islets on irregular reef, enclosing a lagoon

Whytohee. (closed); (Peale found it thickly covered with verdure,

Whytohee. especially at w. end; cocoanut and pandanus trees; natives

Wytoohiee. thievish and tricky. The Peale party landed with "diffi-
culty" about 4 p. m., so did not make a very extensive
exploration. Got a small native rat and Conopoderas.)

Hydr. Pilot says e. and w. sides well wooded (with vegeta-
tion different from other ids. of group), including a few

cocoanut, pandanus and bread-fruit trees; the s. side almost without vegetation; inhab. few, nominally Catholic, but little more than savages, and naked. Hurricane of Jan., 1903, caused damage here.

Napuka and Tetopoto make up the Disappointment Ids., and are 100 mi. distant from any others of the Tuamotu group.

Narcissus [= Tatakoto]

Negeri [= Nihiru]

46. Nengonengo (6 mi. long and nearly circular; lagoon, with good passage on e. side; high clumps of trees on e. side, with Prince William Henry. cocoanut grove on s. side; uninhab.)

Nganaiti [= Fangataufa]

Nganati [= Fangataufa]

7. Niau (atoll 4 mi. diam.; 26 ft. high; closed lagoon, but has entrance Creig. at s. e. corner; well wooded, with undergrowth; many coco- Faau. mts; inhab. Greig. It is said the sea washed "completely across" it in hurricanes of 1877 and 1878, possibly destroying any ground inhabiting species (if earlier storms had not already done so). Good fish in lagoon.

Nigeri

Niheri

- Nihiru (7 mi. diam., and nearly circular; no pass into lagoon; well Negeri. wooded at n. point, fairly so at n. e. and s. e. sides, but Nigeri. only scrubby bushes betw. s. and s. e. points; inhab. at Niheri. times.

53. Nukutapipi (2 mi. circ.; closed lagoon; "high" & well wooded (mostly Margaret. pandanus) on n. side; some cocoanuts; flat, submerged Nukutipipi. reef on e. and s. e. sides; uninhab. Easternmost of Duke of Gloucester group. 20° 42' S., 143° 5' W.

"Nukutapipi" of Brigham's map 22 = Nukutavake of Hydr. Pilot and Chart. It is not the Nukutapipi of the Duke of Gloucester group.

63. Nukutavake (of Hydr. Pilot) (about 5 x 1.5 mi.; coral; no lagoon; Lagoon. some sand dunes up to 35 ft. high; wooded (except "Nukutapipi" of at e. end) with Pandanus & other trees, with much Brigham's map 22. dead timber; few inhab. Queen Charlotte. 19° 17' S., 138° 49' W., or 8 mi. n. w. of Pinaki Whitsunday. (of Hydr. Pilot). Brigham gives 18° 43' 19" S., 138° 47' 13" W., but this is the location of Vahitahi!

Nukutawake [= Vahitahi]

Nukutipipi [= Nukutapipi]

Oahe [= Ahii]

Oahe [= Manihi]

Ocheou [= Hau]

Ofiti [= Hiti]

Ofiti [= Tepoto]

Ohiti [= Hiti]

Osnaburgh [= Mururoa]

Otohoo [= Tetopoto]

Oura (of Cook) [= Takapoto]

Palliser group (includes Kaukura, Rangiroa, etc.

Pernicious Ids. } synonyms of Palliser group.
Schadelyk Ids. }

Pangataufa [= Fangataufa]

Paai (islet of Rangiroa; about 12 ft. high.

Papakena [= Tureia]

Papuri (islet on outer reef of Mangareva.

48. Paraoa (low; no pass into lagoon; wooded; now uninhab., but has Gloucester. ancient stone structures at s. e. point.

Hairiri.

Hariri.

Pavete (islet on s. side of Arutua.

Peacock [= Ahii]

Peard [= Mangareva]

Pearl [= Mangareva]

Pernicious Ids. [= Palliser group]

Philip [= Makemo]

Phillips [= Makemo]

61. Pinaki (of Hydr. Pilot & Chart) = "Nukutavake" of Brigham's map 22.

Whitsunday. 1.5 mi. diam.; nearly circular; coral; lagoon; about 6 ft. high; well wooded, with pandanus & cocoanut chiefly & some belts of bushes; 116 or more minute islets in lagoon; uninhab. according to some authorities, but Agassiz refers to natives keeping turtles in a sink here (possibly these were visitors from other ids.) 19° 24' S., 138° 43' W. This id. (Pinaki of Hydr. Pilot) is where Townsend secured 1 Tringa parivirostris, and saw one other.

Predpriatie [= Akahaina]

Prince of Wales Id. [= Rangiroa]

Prince William Henry [= Nengonengo]

Puaumu (islet of Mangareva, on outer reef.

55. Pukapuka (9 x 3 mi.; (3 islets?) about 8 ft. high; round closed lagoon;

Danger. with clusters of trees (no palms) and bushes; some of the
Dog. trees 18 in. in diam., and 50 ft. high; clusters of pan-
Henuake. damus trees on s. w. point; no water; no troublesome flies;
Henuake. uninhab. Said to have snakes; on this or a neighboring
Honden. id., one of the Peale party saw in a bush what he thought
Houden. was a squirrel or an opossum, but Peale searched for it
later without success.

Peale party had to swim ashore from boats and back again; they could save only a few of the birds shot,

- abandoning the others. 14° 50' S., 138° 50' W.
- Pukapuka (low, & inhab., according to Brigham, but there does not seem to be any island in this spot. Location given by Brigham is 17° 23' S., 138° 35' W. Probably same as Tatakoto.
- Clerke.
- Pukararo (small islet of Vairaatea; said to be inhab. at times.
- Pukaroa.
- Three Cocoa-nut Trees Id.
- Tres Cocotiers.
- Pukaroa [= Pukararo].
58. Pukaruha (coral atoll; 7.5 x 2.2 mi.; 12 ft. high; closed lagoon Minerva. (with islets covered with bushes); wooded, with Reao (of cocoanuts and higher trees (in clusters on s. side); wooded on n. e. side; 300 yds. on s. w. side is low barren flat (no vegetation); few inhab. Serle. 18° 22' 30'' S., 136° 58' 30'' W. (Brigham). 18° 22' S., 136° 58' W. (Hydr. Pilot). Both Brigham and Hydr. Pilot give location and size o. k., yet this is the "Reao" of Brigham's map 22.
- Pukarunga (one of the 2 islets constituting Vairaatea; Pukarunga is the eastern and larger islet.
- Egmont.
- Queen Charlotte [= Akiaki]
- Queen Charlotte [= Nukutapipi]
- Queen Charlotte [= Nukutavake]
- Raeffski group [= Raeffsky group]
- Raeffsky [= Tepoto]
25. Raeffsky group (comprises Hiti, Tepoto, and Tuinaki; they are thickly wooded (except Hiti?); uninhab.
- Raeffski group.
- Raveskoi.
- Seagull group.
- Rahiroa [= Rangiroa]
- Rairoa [= Rangiroa]
- Rairu [= Rangiroa]
4. Rangiroa (42 x 14 mi.; narrow coral belt, enclosing lagoon (with Deans. 3 wooded islets in it); n. land rim covered with Fly. cocoanuts and other trees and shrubs; s. side barren, Nairsa. with a few wooded clusters; several passes into Prince of lagoon; inhab.; mission station. Peale party did Wales. no collecting here. Original discoverers found Rahiroa. myriads of small black flies here. Comprises numerous Rairoa. islets (chiefly on w. & n. sides) the larger and Rairu. some of the smaller ones being wooded. Brander, Vliegen. Mohican, and Avatoru are wooded islets, and Nui Nui is a small islet at entrance to Tiputa Pass, on n. side of Rangiroa.

20. Raraka (triangular (or oval - Findlay) 15 mi. on a side; lagoon of deep blue water, with entrance at n. w. side; wooded, with many cocoanuts; few inhab. (friendly). Seven wooded islets on s. side.
Peale party saw about 10 species of birds here.
34. Raroia (atoll about 20 x 8 mi.; lagoon, with entrance on n. w. side; lightly wooded on e. side, but n. and w. sides Barclay de Tolly. have more vegetation, including clumps of cocoanuts; inhab.
- Ravahere [= Manaka]
Ravahere [= Marokau]
Raveskoi group [= Raefsky]
57. Reao (long (10-11 mi.) narrow atoll; closed lagoon, with several small islets; wooded (cocoanuts and shrubs); Clermont de Tonnerre. inhab. 18° 34' S., 136° 20' W. (Hydr. Pilot).
Pukaruha (of Brigham's map 22).
- Recreation [= Makatea]
Reid [= Tuinaka]
Reiotoua (said to be in 18° 20' S., 143° 7' W., but not recognized for many years. Buyers group
42. Reitoru (3-4 mi. circ.; a pond in middle, without entrance; low; Bird. "some wood"; uninhab. Cook called it Bird island because of the "Men-of-War and several other sorts" Hekuera. Heueru. found here; birds in large numbers said to still occur. Hikuera.
36. Rekareka (atoll 5 mi. circ.; lagoon with boat entrance on n. e. side; well wooded; inhab. (few and friendly). Goodhope.
- Resolution [= Tauere]
Romanzoff [= Tikei]
Rurick [= Arutua]
Saken [= Katiu]
San Miguel [= Anuanuraro]
San Pablo [= Hereheretui]
San Quentin [= Heraiki]
St. Elmo (a group reported by Quiros, but not since found in the position reported - 21° 20' S., 143° 50' W.)
St. Paul [= Hereheretui]
St. Simeon [= Tauere]
Schadelyk Ids. [= Palliser group]
Seagull [= Raefsky group]
Serle [= Pukaruha]
Sondergrond (of Le Maire & Schouten) (May = the King George Ids.)
Spiridoff (of Kotzebue) [= Takapoto]
30. Taenga (10 x 5 mi.; low; lagoon, with openings at n. e. and near Holt. s. w. ends; n. end of atoll is well wooded; 2 clumps Jermaeloff. of cocoanuts on s. side; few inhab. Yermaloff. Yermalov.

Taeroere (islet of Rangiroa.

Tahanea (25 x 10 mi.; a reef, covered with wooded islets (wooded on Tchitchagoff. n. and n. e. sides, but nearly bare on s. e. and s. Tchitchagov. sides); 3 good entrances to lagoon on n. side; inhab. Tchitschagof. most of the time by natives of other ids., who have Tchitschagoff. cocoanut groves here.

Taiara [= Taiaro]

19. Taiaro (about 3 mi. diam.; low; closed lagoon; thickly clothed with King trees and shrubs; good landing on lee side; no permanent Taiara. inhab. Peale party did no collecting here.

Takakoto [= Tatakoto]

12. Takapoto (about 13 x 4 mi.; closed lagoon; low; wooded; with many islets; inhab.; in King George Group.

Oura.

Spiridoff.

Taputa.

Ura.

13. Takaroa (atoll 15 x 5 mi.; low; open lagoon; wooded in clumps on Teoukea. all sides; inhab.; in King George group. Hurricane Tiokea. of 1878 did much damage. Tiookea.

Takoumé [= Takurea.]

33. Takurea (atoll about 12 x 3 mi.; closed lagoon; n. end thickly Takoumé. wooded with cocoanuts; generally wooded, except at Takuma. s. e. side, where only the islets are wooded; inhab.

Wolconsky.

Wolkhonsky.

Wolkonski.

Takume [= Takurea]

Tandrec [= Tauere]

Taputa [= Takapoto]

Tarauru-roa (islet of Mangareva, on outer reef.

Taravai (islet of Mangareva.

Belcher.

56. Tatakoto (atoll 4 x 1 mi. or 10 x 3 mi.; very low; lagoon with no Clerke. entrance; wooded on n. w. part, with brush on s. e. part; Egmont. inhab. Another authority says about 22-24 mi. in extent, Narcissus. with grove of high cocoanuts at e. end, with remainder Takakoto. low & covered with bushes. 17° 18' W., 138° 19' W.

Tatakotopoto (reported near Tatakoto, but not now recognized).

35. Tauere (4.5 mi. circ.; comprises 2 small islets; lagoon, with canoe Resolution. passage on n. w. side; many cocoanut trees, but most St. Simeon. of s. and w. sides are bare reefs; inhab. (few and St. Simon. friendly).

Tandrec.

Taueree.

Taueri.

Taweree.

Tauere [= Tauere]

Taueri [= Tauere]

Tauna (islet of Mangareva, on outer reef.

Tawere [= Tauere]

Tchitchagoff [= Tahanea]

Tchitchagov [= Tahanea]

Tchitschagof [= Tahanea]

Tchitschagoff [= Tahanea]

Tekareka [= Tekokoto]

Tekava (islet of Mangareva, on outer reef.

Tekokota [= Tekokoto]

32. Tekokoto (circ. reef, 1 mi. diam.; consists of long id. on e. side, Clerke? 4 ids. on w. side, & 1 on n. side; a few ft. high; shallow Doubtful. closed lagoon, with islet in middle covered with high Tekareka. Fetau trees; some bushes in places; "great numbers of Tekokota. birds resort to this island." Agassiz refers to "a regular Tekotota. lar rookery of boobies", but mentions no other species. Uninhab.

Tekotota [= Tekokoto]

Teku [= Amamurunga]

Teku [= Vanavana]

54. Tematangi (atoll 7 mi. diam.; no pass into lagoon; e. side wooded Bligh. without a break for about 6 mi.; w. side wooded Lagoon. (pandanus, etc.), but in clumps; said to be now uninhab., though former natives were hostile and said to have been cannibals. In good weather landing can be made on w. side, also on n. side of reef. 21° 38' S., 140° 40' W.

67. Tenararo (2 mi. diam.; low; closed lagoon; wooded; uninhab. (formerly a few inhab.); is smallest of Actæon group.

68. Tenarunga (near (7 mi. n. w. of) Maturei vavao, and much smaller Melbourne. than that id.; no pass into lagoon; very low; wooded; no permanent inhab.; in Actæon group.

Tecukea [= Tiokea.]

26. Tepoto (small atoll 2 mi. diam.; lagoon with pass on n. side; thickly wooded; s.-most of Raefsky group. Uninhab.?

Eliza (of Mauruc)

Ofiti

Raefsky

Tepoto [= Tetopoto]

Tepu mui (islet of Mangareva, close to Taravai.

15. Tetopoto (9 sq. mi.? (Hydr. Pilot & Findlay say 1 sq. mi. in extent); Disappointment. no lagoon; abundantly covered with large trees (no Otohoo. cocoanuts in Peale's time); not permanently? inhab., Otooho. though "natives" have been found on it. With Napuka, Tepoto. it forms the Disappointment group. Peale party landed Tetopoto. here, but did no collecting.

Three Cocoa-nut Trees Id. [= Pukararo]

- Thrum cap [= Akiaki]
Tiarari (islet of Rangiroa, s. of Paoi.
2. Tikahau (circular, and 10 mi. diam.; lagoon, one or more thickly
Krusenstern. wooded islets in it; entrance on w. side; well wooded;
Tikehau. inhab.
14. Tikei (10 mi. circ.; small wooded coral islet; no lagoon; a few
Romanzoff. inhab. from Takaroa live here, mostly suffering from
Romanzov. elephantiasis.
76. Timoe (3.5 x 1.5 mi.; with strip of coral about 300 ft. wide, en-
Crescent. closing a closed lagoon; about 2 ft. high; several
small low islets, the highest (about 6 ft. high)
covered with trees nearly 20 ft. high; uninhab. "Land-
ing appeared impossible", owing to heavy surf. This
is s. e.-most of Tuamotus proper.
23° 20' S., 134° 29' W. (Hydr. Pilot)
Tiokoa (of Cook) [= Takaroa]
Tiokoa [= Takaroa]
Toao [= Toau]
8. Toau (23 x 11 mi.; lagoon atoll, with many islets; well wooded, ex-
Elisabeth. cept at w. point; entrance on n. e. side of lagoon; in-
Elisabeth. hab. at certain seasons. All fish in lagoon said to be
Toao poisonous.
Tokorua (islet of Mangareva.
Totopoto [= Tetopoto]
Touanague (of Mauruc) [= Tuanaki]
Tres Cocotiers (of Mauruc) [= Pukararo]
Tuanaka [= Tuanaki]
Tuanake [= Tuanaki]
Tuanaki (atoll; small (4 mi. diam.); lagoon, with small passage for
Reid. "boats" on n. side; rim of land round lagoon very nar-
Touanagué. row; thickly wooded; uninhab.; largest and n.-most of
Tuanaka. Raefsky group.
Tuanake.
Tuinaka.
Tuinaka [= Tuanaki]
65. Tureia (atoll 5 mi. diam.; very low; closed lagoon; well wooded,
except at s. e. side; very few inhab.
Carysfort.
Papakena.
Turnbull (recorded in this region, but not now identified.)
Tuscan (low; inhab.; recorded in 1822, as in 17° 22' S., 143° 20' W.
no doubt a syn. of one of the other ids. in this vicinity.
Tutu (small wooded islet in lagoon of Kawehe.
Two Groups (consists of Manaka and Marokau.
Ura [= Takapoto]
Vahanga [= Vehanga]

60. Vahitahi (atoll 3 x 1 mi.; no pass into lagoon (which has many Cook Lagoon. islets); large clumps of cocoanut and other trees
Four Facardins. on w. part, but e. side is not wooded; few inhab.
Lagoon (of Cook) 18° 42' S., 138° 50' W.
Nukutawake.
- Vaiatekua (islet of Mangareva, on outer reef.
62. Vairaatea (2 islets on same reef; Pukararo (leeward), and Pukarunga
Byam Martin. (windward); well wooded (pandanus and cocoanuts);
Egmont. landing difficult and dangerous; a few inhab.
Vairaotea. 22 mi. w. of Nukutavake (of Hydr. Pilot).
- Vairaatea [= Mururoa]
Vairaotea [= Vairaatea.]
64. Vanavana (atoll 1.2 x 1.7 mi.; is a narrow sand strip (about 600 ft.
Barrow. wide) surrounding closed lagoon; pandanus, cocoanuts and
Kurateke. bushes grow thickly, with some hard wood; said to have
Teku. (about 1861) a few hostile inhab., but they were probably
from another id.
66. Vehanga (2 mi. diam.; lagoon without entrance; low; wooded; uninhab.;
Bedford. in Actæon group, 5 mi. n. w. of Tenarunga.
Minto.
Vahanga.
- Vesper (of Roggewein) (doubtful, but may be same as Cecile.
- Vincennes [= Kawehe]
Vliegen [= Rangiroa]
Wainwright [= Akamaru]
Waterlandt [= Manihi]
Whitsunday [= Pinaki]
Whitsunday [= Nukutavake]
Whytohee [= Napuka]
Whytochee [= Napuka]
Wilson [= Manihi]
Wittgenstein [= Fakarawa]
Wolconsky [= Takurea]
Wolkhonsky [= Takurea]
Wolkonski [= Takurea]
Wright's lagoon Id. [= Moerenhout?]
Wytochee [= Napuka]
Yermaloff [= Taenga]
Yermalov [= Taenga]

27 a. Tuamotu (outlying Ids.)

British islands, to the s. e. of the main Tuamotu group.

Ducie (1.7 x 1 mi.; about 12 ft. high; lagoon; has low trees (about 14 ft. high), which form a thick canopy of bright green foliage; uninhab., birds being the only living things seen. MacFarlane says a "very dangerous atoll, having a sandy beach with some clumps of bushes, not more than 40 feet high, on its northern side; and a barrier-reef, over which a very heavy surf was breaking, fringes the remainder. The lagoon is very shallow, and has a few passages suitable for boats in calmer weather." (he was here March 16, 1884.) 24° 40' 40'' S., 124° 47' 40'' W.

?Encarnacion.

Elizabeth [- Henderson.]

"Encarnación" [= ? Ducie; also reported circa 24° 55' S., 136° 42' W., but "existence doubtful."

Henderson (5 x 2.5 mi.; 80 ft. high; raised coral; covered with trees, Elizabeth. interlacing shrubs, etc.; uninhab., though 2 men from ?San Juan the "Essex" were stranded here in 1820, but "eventually" Bautista. rescued. They may have exterminated a species or two. Henderson is a dependency of Pitcairn; is bounded on all except n. side by cliffs of dead coral rock about 50 ft. high; landing only possible on n. and w. sides; reef on n. w. point. Rats and mice are numerous. 24° 24' 45'' S., 128° 18' 30'' W.

Oeno (small; very low, hence "highly dangerous"; coral reef surrounds a lagoon, near centre of which is a small islet covered with shrubs; near n. end are 2 sandy islets a few ft. high; said to be a channel for "boats" at n. e. part of reef, but landing said to be dangerous, even when possible; uninhab. 65 mi. n. w. by n. from Pitcairn, and a dependency of it. 23° 55' 30'' S., 130° 44' 20'' W. Cocoanut trees have been planted here.

Pitcairn (2.2 x 1 mi.; 1000 ft. high; well wooded to summit on n. side, but more barren than formerly, "owing to the gradual disappearance of the trees"; bordered with steep cliffs and naked rugged rocks; landing limited to one or two places, elsewhere shores are perpendicular. Inhab. by descendants of the mutineers of the "Bounty"; goats, pigs (and formerly sheep) and poultry are kept. 25° 04' 00'' S., 130° 05' 55'' W.

San Juan Bautista may = Henderson; reported by Quiros in 24° s., 139° W., which would place it nearly 2° s. by w. of Ahunui. "Existence doubtful."

27 and 27a. TUAMOTU GROUP.

PHASIANIDAE.

Gallus gallus (Linnaeus).

Pitcairn: Nicoll (runs wild).

TRERONIDAE.

Ptilinopus coralensis Peale. (Type locality: Carlshoff = Aratika.)

Aratika: Peale.

Fakarawa: Townsend.

Makatea: Townsend.

Makemo: Townsend.

?Manihi: Peale.

Niau: Townsend.

Raraka: Peale.

Peale saw two species of "doves" on Manihi; one of them was probably this species, and the other doubtless a Gallicolumba.

P. smithsonianus Salvadori is a synonym, based on the same skin!

Ptilinopus insularis North. (Type locality: Henderson Id.)

Henderson: Stephen; Tait & Jamieson.

Stephen found them in flocks of 20 or more.

Globicera aurorae (Peale). (Type locality: Aurora = Makatea.)

Makatea: Peale ("in great abundance in high woody districts");

Townsend; Wilson; Nicoll?

Peale described this from "Aurora or Maitia Island, one of the Society Group", meaning, however, an island of this name in the Tuamotu

group, now known as Makatea. As there is a Maitea or Mehetia island in the Society group, about a hundred and twenty miles due south of Makatea, all, or almost all subsequent writers have considered it to be the home of this bird, and it is so recorded by Wigglesworth, Salvadori, Sharpe, etc. Wilson had several from Makatea given to him by a friend at Tahiti, but he did not remark on the supposed unusual locality; and the suspected new genus of pigeon from Makatea, mentioned by Nicoll (Ibis, 1904, 57) was doubtless this species.

Townsend says the species is "rather common."

PERISTERIDAE.

Gallicolumba pectoralis (Peale). (Type locality: Aratika.)

Aratika: Peale.

?Manihi: Peale.

Peale landed on Carlshoff (or Aratika) Sept. 3, 1839, at 2 P. M., and remained until sunset. The island then contained "but a few acres of forest land," but the trees had a dense growth of bushes under them, thus giving fair cover for this species of ground pigeon. It was probably due to this restricted area that he got two specimens of the bird, the only individuals he saw and the only ones thus far known. These are immature, or possibly an immature bird and a female, and lack the distinguishing characters that mark most of the species, and have thus never been fully identified, nor even definitely ascertained to be different from any species of neighboring groups of islands. If hogs or cats have been liberated on the island since 1839, or if the

undergrowth has been cleared for the planting of cocoanuts in this interval, the mystery may never be solved. However, the same species probably occurs on neighboring islands, which are rather closely placed in the Tuamotu group. Peale saw two species of doves on the island of Manihi (not far to the south and east of Aratika), one of which was probably the present one.

Gallicolumba albicollis (Salvadori). (Type locality: Bow = Hau.)

Bow or Hau Id.: Belcher.

Gallicolumba, sp.

?Bow or Hau Id.: Belcher.

A bird in the British Museum, said to be from Bow Island, is referred to G. erythroptera by Salvadori (Cat. Birds Brit. Mus., xxi, 601), who questions the locality.

RALLIDAE.

Porzana atra North. (Type locality: Henderson Id.)

Henderson: Stephen; Tait & Jamieson.

Said to be common in the interior, in thick scrub, and very tame. The collectors made no comment on whether the bird is capable of flight. This point, and the true generic affinities of the species, are worthy of investigation.

PUFFINIDAE.

Cook (1st voy.) saw "a Bird which was all white, except the Tip of each Wing; it was nearly as big as an Albetross", on April 3, 1769,

when he was in the vicinity of the Tuamotu group. Whether it belonged to the Tubinares is not certain, though probable. (See under Rapa Island.)

(A. Lesson reports a "Procellaire" from Mangareva, circa 1840.)

?Pterodroma alba (Gmelin). (Type locality: Christmas Id.)

Pterodroma parvirostris (Peale). (Type locality: Hemuake.)

Near Hemuake (Dog or Honden): Peale.

The type and only specimen was obtained Aug. 20, 1839, near this island, and Peale wrote "they breed on the coral islands." Loomis (Auk, 1920, 88) decides that parvirostris is a synonym of alba Gmelin; he is probably right as far as Christmas Island is concerned, but fresh material from this locality and the Tuamotus should be compared, as there is a distance of about 1800 or 2000 miles between the two places.

?Pterodroma neglecta (Schlegel). (Type locality: Kermadec group.)

Near Pitcairn: Solander.

A specimen obtained by Solander (the Procellaria melanopus of Solander's MS., nec Gmelin), on March 21, 1769, near Pitcairn, is identified by Mathews (from Solander's description and drawing) as nearest to Schlegel's neglecta.

"Large Petrel."

Ducie: Macfarlane.

Macfarlane found eggs March 16, but obtained no birds; genus and species still in doubt. He does not say whether the eggs were

laid on the surface or under ground.

Puffinus, species.

Henderson: Tait & Jamieson.

Very plentiful, and laid their eggs on the ground among the scrub all over the island. A "Mutton" bird, probably the same species, was found plentiful by A. E. Stephen, with eggs (Sept. 10, 1907) in the scrub.

Nicoll saw two dark shearwaters at or near Pitcairn, in March.

STERNIDAE.

(Peale saw a "few Terns" on Pukaruha; he also found "Terns" on Manihi. A. Lesson found "une jolie sterne" at Mangareva.)

Gygis alba pacifica (Lesson).

Akiaki: Townsend.

Ducie: Macfarlane (eggs March 16).

Henderson: Stephen(plentiful); Tait & Jamieson.

Hemuake: Peale.

Manihi: Peale.

Pitcairn: Macfarlane (said to breed in Sept.); Nicoll (seen).

Tekokoto: Townsend.

Megalopterus melanogenys (Gray).

Henderson: Tait & Jamieson (not so common as preceding).

Makemo: Townsend.

Rangiroa: Townsend.

Raraka: Peale.

Anous stolidus pileatus (Scopoli).

Aratika: Peale (multitudes breeding on trees, Sept. 3, 1839).

Ducie: Macfarlane.

Henderson: Stephen (not very common).

Makatea: Townsend.

Makemo: Townsend.

Manihi: Peale (seen).

Pitcairn: Macfarlane (not breeding in March); Nicoll (seen).

Raraka: Peale.

Procelsterna cerulea teretirostris (Lafresnaye).

Henderson: Tait & Jamieson.

Henuake: Peale (breeding and had eggs, Aug. 21, 1839).

Pitcairn: Nicoll (seen).

Rangiroa: Townsend.

Henuake is the type locality of Megalopterus plumbea Peale.

The type locality of teretirostris was not indicated in the original description.

Onychoprion lunatus (Peale). (Type locality: Kawehe.)

Kawehe: Peale (large numbers, in Sept.).

Rangiroa: Townsend.

Saunders says this species appears to represent anaethetus in this group.

Onychoprion fuscatus (Linnaeus).

Henuake: Peale ("great numbers"; had young ready to fly,

Aug. 21, 1839).

Peale says it was observed "throughout all" of the group visited by the Wilkes Expedition, as well as "on most of the coral islands of the Pacific" (visited by the expedition), breeding on islands not inhabited by man.

Thalasseus bergii rectirostris (Peale). (Type locality: Fijis.)

Makemo: Townsend.

?Sterna dougalli Montagu.

Tuamotus: recorded by Gray.

Locality, as well as species (or subspecies) probably in doubt.

SCOLOPACIDAE.

(Peale saw "Snipes" on Manihi, and A. Lesson reports "le phalarope", "le courliou", and "le chevalier", from Mangareva.)

Phaeopus tahitiensis (Gmelin).

Kawehe: Peale ("abundant", Sept. 2, 1839).

Makatea: Townsend.

Makemo: Townsend.

Kawehe is the type locality of Numenius femoralis Peale.

Heteroscelus incamus (Gmelin).

Henderson: Tait & Jamieson.

Hemuake: Peale (Aug. 21, 1839).

Makemo: Townsend.

Rangiroa: Townsend.

Aechmorrhynchus parvirostris (Peale). (Type locality: Hemuake and Raraka.)

Henuake: Peale (common; had eggs and young on Aug. 21, 1839).

Pinaki: Townsend (Oct. 31, 1899).

Raraka: Peale (less common than on Henuake).

Apparently closely related to AE. cancellatus from Christmas Island, of which no specimens are extant. Christmas Island is about 2000 miles from the present localities, and there is a fair chance of the two forms being different, as indicated by a comparison of specimens with Latham's original description.

Peale says it alights "on bushes or on the ground". He got five specimens, one of which was sent to the Chicago Academy of Sciences and was destroyed in the fire of 1871; another was sent to the Boston Society and was lately transferred to the Museum of Comparative Zoology. The other three specimens, and the one collected by Townsend, are in the National Museum. No specimens appear ever to have reached foreign museums, and so little has been heard of the species since Peale's time that Rothschild, who was not aware of Townsend's discovery, included it among his "Extinct Birds" as "undoubtedly extinct." The chances are favorable for its present occurrence on suitable islands in the Tuamotu group--those on which cats and pigs (and foreign rats) have not been introduced. From Peale's account (in his MS. journal) of the difficulty of landing at Henuake, it is likely that this island is still in almost the same primitive condition as when he stopped there, and if so, the sandpiper will probably be found as

formerly. While Peale described the eggs, they have long since disappeared, if, indeed, they ever reached Washington.

Grocethia alba (Pallas). Sanderling.

Henderson: Tait & Jamieson.

CHARADRIIDAE.

(A. Lesson reports "le pluvier" from Mangareva.)

Pluvialis doninica fulva (Gmelin).

Hau (or Bow): Belcher.

Makatea: Townsend.

Makemo: Townsend.

Tikei: Townsend.

ARDEIDAE.

Demigretta sacra sacra (Gmelin).

Ahii: Peale.

Aratika: Peale.

Makatea: Peale.

Makemo: Townsend.

Mangareva: A. Lesson.

Rangiroa: Townsend.

PHAETHONTIDAE.

(A. Lesson refers to one species on Mangareva; and Peale saw one species on Pukaruha, but he did not land there.)

Phaethon rubricaudus Boddaert. (Type locality: Mauritius.)

Ducie: Macfarlane (breeding in great numbers, March 16).

Hemuake: Peale (breeding; eggs, and young ready to fly, on
Aug. 21, 1839).

Pitcairn: Nicoll (seen).

SULIDAE.

(Bennett, in his "Narrative of a Whaling Voyage", vol. 2 (appendix), gives notes on the fresh colors of various boobies observed by him in the Pacific islands, from which it appears that much remains to be done before a final determination of the forms inhabiting Polynesia can be attempted. Distances are great in this region, and there are many widely separated colonies of the genus Sula, which makes it desirable that careful notes on the colors of soft parts be taken of the birds of each group of islands, particularly of isolated colonies.)

Sula "cyanops" (Sundevall). = Sula dactylatra Lesson.

Hemuake: Peale (had eggs, Aug. 20, 1839).

Sula leucogaster plotus (Forster).

Makatea: Peale.

Tekokoto: Townsend.

Sula piscator (Linnaeus). (Type locality: China Seas.)

Henderson: Tait & Jamieson.

Hemuake: Peale (many hundred pairs building nests, Aug. 21).

Tekokoto: Townsend.

FREGATIDAE.

(Frigate birds were numerous on Henderson (Stephen; Tait & Jamieson) and Peale saw a few on Pukaruha, but did not land there. Adolphe Lesson

mentioned one form from Mangareva.)

Fregata aquila, subspecies.

Hemake: Peale (breeding, in great numbers, Aug. 20).

Fregata ariel ariel (Gray). (Type locality: Raine Island, Australia.)

Makemo: Townsend.

LORIIDAE.

Coriphilus peruvianus (Miller).

Makatea: Peale.

Niau (or Greig): Garrett.

Rangiroa: Townsend.

Vini stepheni (North). (Type locality: Henderson.)

Henderson: Stephen; Tait & Jamieson.

Not very common; usually in pairs on plateau of the interior.

Related to V. kuhli of the Fanning or Line Islands.

Family -----?

"Lanius gambieranus" R. P. Lesson. (Type locality: Gambier = Mangareva.)

Gambier (or Mangareva): A. Lesson.

This bird was collected by Lesson's brother Adolphe, who was a surgeon in the French navy or marine, and spent four years in the South Seas. It was described by Lesson as a Lanius, and was in his collection at Rochefort. No one has satisfactorily identified it, and the specimen appears to have passed out of existence, or at least

out of the sight of ornithologists. It has been placed in Eopsaltria and also in Pachycephala, by various authors, but it is in all probability something quite different. One student has suggested (but not in print) its identity as a Conopoderas, but as Lesson was the proposer of the genus Tatare (= Conopoderas), based on the Tahitian species, he would probably have recognized its affinities, were it a member of this genus.

("Dicaeidae." Pinaroloxias inornatus figured for many years as a bird of Bow (or Hau) Island, in this group, but it proves to be a member of the Fringillidae, from Cocos Island, off Panama, where Belcher's ship also stopped.)

SYLVIIDAE.

(Peale makes the following general observations on the genus below: "We obtained specimens of this variable species, at the Paumotu Group of islands, at Tahiti, at the Samoan Islands, at Tongatabu, and sundry other places in the South Pacific Ocean. It is the most widely spread of all the Polynesian land-birds. The most usual colour is pale buff beneath; brown wings and tail, the feathers of the latter tipped with buff; and the back and head mottled with brown and buff. We have not seen any two specimens exactly alike: they vary from a chocolate-brown to white; in fact they vary in markings, colour, and size, almost as much as domestic poultry; but their sprightly wren-like actions, and sweet song, are the same in all. They frequent close bushy patches

of vegetation, and sometimes reedy marshes; are difficult to shoot, unless the hunter excites their curiosity, when they will expose themselves.")

Conopoderas vaughani (Sharpe). (Type locality: Pitcairn.)

Pitcairn: Vaughan; Nicoll (fairly abundant).

Bennett (Narrative, 1840) probably refers to this species as one seen about 1835, "a small and noisy species inhabiting the woodlands" of Pitcairn. Nicoll says it is the only land bird.

Conopoderas taiti (Ogilvie-Grant). (Type locality: Henderson.)

Henderson: Stephen (seen); Tait and Jamieson.

Said to be allied to C. vaughani, and has the same tendency to albinism shown in some of the other species of the genus.

Conopoderas atypa atypa Wetmore. (Type locality: Fakarava.)

Aratika: Peale.

Fakarava: Townsend.

Tikei: Townsend.

Wetmore says the Aratika bird is more buffy below, and the Tikei examples are "very slightly darker above" than typical specimens from Fakarava.

Conopoderas atypa rava Wetmore. (Type locality: Pinaki.)

Akiaki: Townsend.

Pinaki: Townsend.

Only one skin from Akiaki is available, and Wetmore thinks the bird from this island will prove different when more are at hand.

Conopoderas atypa crypta Wetmore. (Type locality: Makemo.)

Makemo: Townsend.

Conopoderas atypha agassizi Wetmore. (Type locality: Apataki.)

Apataki: Townsend.

Conopoderas atypha nesiarcha Wetmore. (Type locality: Rangiroa.)

Rangiroa: Townsend.

Conopoderas atypha erema Wetmore. (Type locality: Makatea.)

Makatea: Townsend.

Conopoderas atypha, subspecies.

Hereheretue: Townsend.

Only one specimen, in alcohol, "but there is little question but that it is distinct." (Wetmore.)

Conopoderas, species.

"Gambier" (Mangareva?): Garrett.

"Disappointment" (Napuka?): Peale.

Kawehe: Peale (heard).

Manihi: Peale (heard).

Raraka: Peale (heard).

These islands are probably inhabited by various forms of undescribed species of the genus. Peale was at the above islands for a period of about two hours each, so did not have much time to collect species he thought he had already found on other islands. To him this genus represented one variable species.

(13) GENERAL NOTES ON THE MARQUESAS GROUP.

Georg Forster (son of J. R. Forster), in April, 1774, found the birds of Tahuata "much like" those of Tahiti, but "they were not frequent, and in no great variety." He made only a very short stay here, and evidently did not visit the mountains, of which, on the south side "rises a peak, which is very craggy and inaccessible." They also saw some "rats." Bennett says various "amphibious" birds occur on the coast of Tahuata.

Principal collectors in the Marquesas group:

J. R. and Georg Forster, and Dr. Anders Sparrman, visited Tahuata (April, 1774) on Cook's second voyage.

W. G. von Tilesius visited Nukuhiva (and possibly other islands) on Krusenstern's voyage (1803-06).

F. D. Bennett (circa 1833-35) collected or observed birds at Tahuata.

Dr. Adolphe Simon Néboux (Voy. 'Vénus') was at Resolution Bay, Tahuata, Aug. 5-9, 1838.

Hombron and Jacquinot (Voy. 'Astrolabe' and 'Zélée') were in the Marquesas, May-June, 1838; at Nukuhiva, in August, 1838.

Dr. Hinds (Voy. 'Sulphur') was at Nukuhiva Jan. 20, 1840.

Edelestan Jardin made a small collection in the Marquesas group about 1855 (cf. Bonaparte, Comptes Rendus, XLI, 1855, pp. 1109-1113). Some of the Tubinares recorded from this collection

may have come from far outside the limits of this group, possibly anywhere on the voyage from France and return, but we are not yet sufficiently familiar with Polynesian ornithology to disregard them. Furthermore, there is a "desert" region on the west side of Nukuhiva--visited by Jardin--that is little known, ornithologically.

Andrew Garrett collected at Hivaoa and Nukuhiva, about 1876?

Rev. James L. Green sent a small collection, in spirits, to Tristram, in 1880.

Dr. C. H. Townsend (Sept. 15-17, 1899) visited Nukuhiva, on the Agassiz Exped. He says the ornithology of the group, with the exception of Nukuhiva and Hivaoa (with its neighboring islet Tahuata) "is unknown", and that "all of the larger islands are forested and may yield much of interest to naturalists."

Material from the group has also drifted into the hands of ornithologists from naval officers, ship crews, etc.

(13) Marquesas group.

"Iles de la Révolution" (Marchand, 1791) was given to the n. w. group of the Marquesas.

"Roberts Isles" is a name given by the 'Daedalus'.

Nos. 1-6 are in the "Washington Group."

Nos. 7-11 are in the "Mendana Group."

High and of volcanic origin (but no craters known to exist); mtns. usually central, with ridges and valleys extending to coast; often broken and irregular in form.

Belong to France; seat of Gov't. is at Nukuhiva. Monthly schooners from San Francisco to Tahiti, stop at Nukuhiva, and a schooner plies betw. Tahiti and the Marquesas every 6 weeks or so. Pigs, goats and fowls occur wild on all the inhab. ids.

Adams [= Huapu]

Adams [= Nukuhiva]

Ariadne rock (13 ft. high?)

Baux [= Nukuhiva]

Blake [= Motuiti]

Borne (islet off Hanaiapa Bay, on Hivaoa; 50 ft. high.)

Chanal [= Hatutu]

Christina [= Tahuata]

Church (volcanic islet on s. side of Huapu.)

Coral Ids. (2 coral islets, 6-9 ft. high, occur about 9 mi. e. of the e. end of Hatutu.)

Cristina [= Christina]

Dominica [= Hivaoa]

East Sentinel = Mataou

2. Eiao (6 x 3 mi.; 2000 ft. high; shores rocky; well wooded in spots, (and there are "pines" on some of the higher places; and a (grove of cocoanuts; no regular inhab.; said to have "good (pasturage" for cattle, so there are grassy stretches on the (id. Inhabited by "tropical oceanic birds. These were in (great numbers about it, and it seemed to be a place of their (general resort."

Freemantle.

Hiaou

Hiau

Knox

Masse

New York

Roberts.

Fatou-Hiva [= Fatuhiva]

Fatou-houkou [= Fatuhuku]

11. Fatuhiva (s.-most of the group; 8 x 4 mi.; a much peaked mtn. is (3675 ft. high; e. side extremely rugged, ridges running (from centre of id. down to precipices at coast; on n.

(and s. side the land slopes more regularly to
(the sea.

Fatou-hiva
La Magdalena
Magdalena
Matuhiva
Motuhiva
Santa Madalena
Santa Magdalena

7. Fatuhuku (a single high rock, 1180 ft. high; flat on summit, with
(gentle slope to southward; barren and uninhab.; natives
(say landing is impossible, but on s. side there is a
(place where landing might be effected. This may be a
(breeding place for birds.

Fatou-houkou.
Fetohougo
Fetugu
Fetuku
Hood.

Fatuuhu [= Hatutu]
Fattuuhu [= Hatutu]
Federal [= Nukuhiva]
Fetohougo [= Fatuhuku]
Fetouhouhou [= Hatutu]
Fetugu [= Fatuhuku]
Fetu-hugo [= Fatuhuku]
Fetu-huhu [= Hatutu]
Fetuku [= Fatuhuku]

Flat (islet on s. coast of Huapu.

Franklin [= Motuiti]

Freemantle [= Eiao]

Gunner's Quoin (volcanic islet on s. side of Huapu.

Ile Plate.

Haane (islet on s. side of Huahuna; 508 ft. high; rocky and of a red-
(dish violet color.

Motu Haane

Hanake (rocky islet, 120 ft. high, in Traitor's Bay, Hivaoa.

Hancock [= Hatutu]

Hat [= Teauana]

Hatoutou [= Hatutu]

1. Hatutu (4 x 1 mi.; 1380 ft. high; stunted vegetation in places;
(has "an abundance of fish and sea fowl", and is only occa-
(sionally visited by natives from Nukuhiva and Huapu.

Chanal
Fatuuhu
Fattuuhu
Fetouhouhou
Fetu-huhu
Hancock
Hatoutou

Langdon

Nexsen

Height [= Hemeni]

Hemeni (conical id. on s. w. point of Huahuna, 318 ft. high and $1\frac{1}{2}$ mi. in circ.; "much frequented by sea birds." (No clue to this in Brigham.)

Height

Hergest [= Motuiti]

Hiaou [= Eiao]

Hiau [= Eiao]

8. Hivaoa { 22 x 6 mi.; "1280" or "2820" or "3520" or "4135" or "4460" ft. high; largest, highest and most populous and most fertile of group; wooded; inhab. Some Europeans have settled here (since 1880) and coffee and cotton are raised. West of the e. point is a barren cliff, and white sandy beach for 5 mi. A grassy slope occurs at Taahuku Bay. Borne and Hanake are islets.

Hood [= Fatuhuku]

Houahouna [= Huahuna]

5. Huahuna (7.5 x 5 mi.; "2430" or "2805" ft. high in its e. part; (wooded and fertile, especially on w. side; inhab.

Haane is an islet on s. side

Hemeni is an islet on s. w. end

Teauaua is an islet on s. w. end

Motu papa is small islet on s. w. end

Houahouna.

Massachusetts

Ouahouka

Ouahuka

Riou

Roahouga

Uahuga

Ua Huka

Ua-Una

Washington.

6. Huapu (9 x 7 mi.; 4042 ft. high; rocky and bold, with various columns, spires & pinnacles; red cliff with a cavern on n. side of id.; luxuriant vegetation in valleys on w. side, & hills in rear are lightly timbered with Casuarina & other trees; inhab.

Roapoa. Islets are: Church (s. side) Flat (s. side)

Roapoua. Gunner's Quoin (s. side) Obelisk; these are of volcanic rock.

Roapua. Motaukuii is a flat islet off n. point.

Trevennen. Off n. e. point are two barren islets.

Uapoa. Reddish islet is in a bay on n. side.

Uapora.

Uapu.

Washington.

- Ile Baux [= Nukuhiva]
 Ile Plate [= Gunner's Quoin]
 Ingraham [= Nukuhiva]
 Knox [= Eiao]
 La Dominica [= Hivaoa]
 La Magdalena [= Fatuhiva]
 Langdon [= Hatutu]
 Magdalena [= Fatuhiva]
 Marchand [= Huapu]
 Marchand [= Nukuhiva]
 Massachusetts (of Roberts) [= Huahuna]
 Masse (of Roberts) [= Eiao]
 Mataou (islet at entrance to "Comptroller Bay" [= Taiohae bay] Nukuhiva.
 East Sentinel.
 Mattau
 Mattau [= Mataou]
 Matuhiva [= Fatuhiva]
 Mohotane [= Motane]
 Mohotani [= Motane]
 10. Motane (5 x 2 mi.; 1640 ft. high; rocky, "sterile" (one authority)
 (or "wooded on the summit and in the ravines" (Hydr. Pilot);
 (ininhab. except at times by fishermen.
 Mohotane
 Mohotani
 Onataevo
 O-nateaya
 San Pedro.
 Motaukuii (small flat islet at n. point of Huapu.
 Motu Haane [= Haane]
 Motuhiva [= Fatuhiva].
 3. Motuiti (a volcanic, pointed rock; 720 ft. high; barren, except
 Blake. for a little vegetation on lea side, & said to be
 Franklin. quite inaccessible. Near it, to the eastward, are
 Hergest. two other islets not so high; barren, and "swarm
 Two Brothers. with sea birds"; landing can be made, but is
 difficult.
 Motuiti (a pointed rock in Hataivea bay, on n. coast Nukuhiva, & "gener-
 ally swarming with sea birds." or "Gulls."
 Poiku
 Motukeokeo (small islet detached from Hemeni, off s. side of Huahuna.
 Motunui (small islet of Nukuhiva, at entrance to Taiohae harbor.
 Mutonoe
 West Sentinel.
 Motupapa (a red islet on s. side of Huahuna.
 Mutonoe [= Motunui]
 Napu [= Huapu]
 New York (of Fanning) [= Eiao]

Nexsen [= Hatutu]
Nou-Hiva [= Nukuhiva]
Nouka Hiva [= Nukuhiva]
Noukouhiva [= Nukuhiva]
Nukahiva [= Nukuhiva]
Nukahiwa [= Nukuhiva].

4. Nukuhiva (14 x 10 mi.; nearly 4000 ft. high; lofty mts. and
(fertile valleys; has wild cattle, sheep & goats; on w.
Adams. (side is a desert region (petrels may breed here); in-
Baux. (hab.; Mataou and Motumui are islets; Motuiti is a rock
Federal. in Hataivea bay.

Ile Baux.

Ingraham.

Marchand.

Nocaheevah.

Nocheiva.

Nou-Hiva.

Nouka Hiva.

Noukouhiva.

Nukahiva.

Nukahiwa.

Nunhiva.

Nuuhiva.

Sir Henry Martin.

Nuuhiva [= Nukuhiva]

Obelisk (volcanic, "reddish" islet s. of Huapu; "whitened by birds."

Sugar-Loaf.

Ohitahoo [= Tahuata]

Ohiva-Hoa [= Hivaoa]

Onataevo [= Motane]

O-nateaya [= Tessan's name for Motane]

Ouahouka [= Huahuna]

Ouahuka [= Huahuna]

Ouapou [= Huapu]

Poiku [= Motuiti on n. coast Nukuhiva]

Riou [= Huahuna]

Roahouga [= Huahuna]

Roapoa [= Huapu]

Roapoua [= Huapu]

Roapua [= Huapu]

Roberts [= Elao]

San Pedro [= Motane]

St. Christiana [= Tahuata]

Santa Christina [= Tahuata]

Santa Cristina [= Tahuata]

Santa Madalena [= Fatuhiva]

Santa Magdalena [= Fatuhiva]

Sir Henry Martin [= Nukuhiva]

Sugar-loaf [= Obelisk]

Tabouata [= Tahuata]

9. Tahuata (9 x 5 mi.; 3280 ft. high; narrow ridge of mtns. extends
(whole length of id.; other ridges occur, with deep narrow
(valleys between them; wooded; wild cattle occur in mts.;
(inhab.; only anchorages are on w. side.

Christina.

Cristina.

Ohitahoo

St. Christiana.

Santa Christina.

Tabouata.

Taouata.

Tauata.

Waitaho.

Waitahoo.

Taouata [= Tahuata]

Tauata [= Tahuata]

Teauaua {small rocky islet, 0.7 mi. circ., s. side of or near Shavay
(bay, s. e. side of Huahuna; "much frequented by sea birds."

Hat.

Teuaua

Teuaua [= Teauaua]

Trevennen [= Huapu]

Two Brothers [= Motuiti]

Uahuga [= Huahuna]

Ua Huka [= Huahuna]

Uapoa [= Huapu]

Uapora [= Huapu]

Uapu [= Huapu]

Waitaho [= Tahuata]

Waitahoo [= Tahuata]

Washington [= Huahuna]

Washington [= Huapu]

West Sentinel [= Motunui]

(13) MARQUESAS GROUP.

TRERONIDAE.

Ptilinopus mercieri (Des Murs & Prevost). (Type locality: Nukuhiva.)

Nukuhiva: Mercier; Garrett.

Ptilinopus tristrami Salvadori. (Type locality: Hivaoa.)

Hivaoa: Garrett.

Ptilinopus dupetithouarsi (Nébourg). (Type locality: Tahuata.)

Marquesas Ids.: Jardin; Green.

Hivaoa: Garrett.

Nukuhiva: Gray; Townsend.

Tahuata: Nébourg.

Serresius galeatus Bonaparte. (Type locality: Nukuhiva.)

Nukuhiva: Jardin, etc.

Head, neck and lower parts dark gray, darker on top of head and nape; back, wings, and tail dark shining green; under tail-coverts chestnut; feathered skin on forehead of a "saddle-like shape, covering half the culmen", and whitish gray. (Abridged from Salvadori.)

Bonaparte says it is confined to the west part of Nukuhiva, in the region called "Femua-taha" by the natives, and rarely penetrated by hunters. His "Femua-taha" is probably the "Hemua-Ataha, or desert land" of Findlay's Directory. Jardin assured Bonaparte the bird was "plus fréquent" in Tahiti, but he may have confused it with the Globiceera auroræ or "wilkesi" of that island, though a supposed Serresius

R. forsteri has been recorded from Tahiti, and its status remains unsettled.

Wiglesworth identifies this species with S. forsteri (ex Forster MS. from "Tahiti"), but Salvadori leaves forsteri as ^{an} unidentified species, and possibly a "Carpophaga?", with a suggestion that it may be Globicera wilkesi (= aurorae).

PERISTERIDAE.

?Gallicolumba rubescens (Vieillot). (Type locality: Nukuhiva.)

Nukuhiva: Tilesius; Bonaparte.

There are said to be no specimens now extant, and the bird is only known from Krusenstern's figure. Forster refers to a bird from the Marquesas that may be this species, but he does not describe it. Salvadori queries the genus, but Hartert, who has examined Krusenstern's figure (Atlas zur Reise von Krusenstern, 1814, pl. XVII), says it looks like a Phlegœnas [= Gallicolumba], and if the locality is correct "is a species peculiar to Nukahiva." (Novit. Zool., XXIII, 1916, 94.)

DIOMEDEIDAE. Albatrosses.

Phœbetria palpebrata (Forster). (Type locality: 47°-71°10' S.)

Marquesas Ids.: Jardin.

Diomedea "exulans".

Marquesas Ids.: Jardin.

PUFFINIDAE. Shearwaters, etc.

Daption capense (Linnaeus). Pintado Petrel; Cape "Pigeon".

Marquesas Ids.: Jardin.

Bulweria macgillivrayi (Gray).

Marquesas Ids.: Mus. Tristram (Green).

HYDROBATIDAE. Small Petrels.

Fregetta albogularis (Finsch). (Type locality: Kandavu, Fijis.)

Marquesas Ids.: Jardin.

STERNIDAE.

Gygis alba pacifica (Lesson). Fairy Tern (all white, with black
eye-ring).

Marquesas Ids.: Filleux; Garrett; Green.

Gygis microrhyncha Saunders. (Type locality: Marquesas Ids.)

Nukuhiva: Saunders; Green; Townsend.

Only recorded with certainty from Nukuhiva, though lately said to
occur on Nawodo Island (see under No. 2, Caroline group.).

Anous stolidus pileatus (Scopoli).

Marquesas Ids.: Jardin; Garrett; Green.

Procelsterna cerulea teretirostris (Lafresnaye).

Marquesas Ids.: Mus. Brit.; Mus. Tristram (Green).

Thalasseus bergii rectirostris (Peale).

Marquesas Ids.: Garrett.

Onychoprion fuscatus (Linnæus). Sooty Tern.

Marquesas Ids.: Jardin; Mus. Tristram (Green).

SCOLOPACIDAE.

Phæopus tahitiensis (Gmelin).

Marquesas Ids.: Mus. Tristram (Green).

Heteroscelus incanus (Gmelin).

Marquesas Ids.: Jardin; Green, etc.

Nukuhiva: Townsend.

Tahuata: Forster.

Forster (1844, p. 174) described a variety of his Scolopax undulata from Tahuata--probably the present species.

CHARADRIIDAE.

Pluvialis dominicus fulvus (Gmelin).

Marquesas Ids.: Jardin; Liverpool Mus. (Green).

ARDEIDAE.

Demigretta sacra sacra (Gmelin).

Marquesas Ids.: Forster; Jardin; Green, etc.

PHAETHONTIDAE.

(A species of Phaethon breeds (or did breed) on Motuiti, according to Bennett.)

Phaethon lepturus Daudin.

Marquesas Ids.: Jardin.

Phaethon rubricaudus Boddaert.

Townsend obtained 3 skins about 600 miles east of this group.

SULIDAE.

Sula piscator (Linnaeus).

Marquesas Ids.: Jardin.

Tahuata: Bennett.

Sula leucogastra plotus (Forster).

Marquesas Ids.: Forster.

FREGATIDAE.

Fregata "aquila".

Marquesas Ids.: Forster; Garrett.

LORIIDAE.

Coriphilus smaragdinus (Hombron & Jacquinot). (Type locality:
Nukuhiva.)

Marquesas :Green.

Nukuhiva: Tilesius; Hombron & Jacquinot; Hinds?; Jardin.

Salvadori (Brit. Mus. Cat.) uses the name ultramarinus Kuhl for this species, though Kuhl's description appeared in 1820, and the type was supposed to have come from "Nova Hollandia?"

CUCULIDAE.

Urodynamis t. taitensis (Sparrman).

Marquesas Ids.: Jardin.

MICROPODIDAE.

Collocalia ocista Oberholser. (Type locality: Nukuhiva.)

Marquesas Ids.: Jardin.

Hivaoa: Garrett.

Nukuhiva: Townsend.

ALCEDINIDAE.

Todiramphus tutus (Gmelin).

Marquesas Ids.: Mus. Leyden.

Halcyon godeffroyi Finsch. (Type locality: Marquesas Ids.)

Hivaoa: Garrett.

Tahuata: Forster.

Garrett collected the type specimen, which may have come from Hivaoa.

MUSCICAPIDAE.

Pomarea nigra (Sparrman).

Marquesas Ids.: Jardin; Green.

Hivaoa: Garrett.

Tahuata: Forster.

SYLVIIDAE.

Conopoderas mendanæ (Tristram). (Type locality: Marquesas Ids.)

Hivaoa: Garrett.

Conopoderas percernis Wetmore. (Type locality: Nukuhiva.)

Nukuhiva: Jardin?; Townsend.

?Marquesas Ids.: Green.

(10) GENERAL NOTES ON THE LINE ISLANDS.

The earliest information from this group came from Cook's visit to Christmas Island--discovered by him Dec. 24, 1777. They found various birds: "Under the low trees sat vast numbers of a new species of tern, or egg-bird, black above, and white below, having a white arch on the forehead. These birds are somewhat larger than the common noddy; their eggs are bluish, and speckled with black. There were likewise many common boobies; a sort greatly resembling a gamet; and a chocolate-coloured species, with a white belly. Men-of-war birds, curlews, plovers, tropic-birds, petrels, &c. are also to be seen here. We saw several rats, smaller than ours."

Fanning, in 1798, discovered the island bearing his name, and describes the little lory in his "Voyages."

Bennett and Coulter visited Christmas Island about 1834, and made a few observations on birds.

Streets visited several of the islands in the winter of 1873-4, and made collections, but some of his birds were lost, and all of his collection of eggs was destroyed by rats on ship. He collected only on the western side of Christmas Island, and spent only "a part of one day" on Washington Island. The latter he says is the "most remarkable of the group", being an "obliterated atoll", and having in "place of the usual salt water lagoon" a "lake of fresh water, one mile long and half a mile wide, with a depth of four fathoms in its

deepest part."

"J. V." (or J. T.?) Arundel collected a few birds for Tristram on Fanning Island, about 1881 or 1882.

Lieut. MacFarlane, R. N., visited some of the islands in 1884, and collected a few sea birds, but not one of the above were expert collectors or naturalists.

Wm. Ellis was an artist or draughtsman on Cook's voyage. On some of his drawings Latham based descriptions of new species, which were later given names by Gmelin. Latham also based some of his descriptions on specimens or drawings in the collection of Sir Joseph Banks. G. R. Gray similarly recorded some specimens or drawings in the British Museum from this (and various other) groups, though neither he nor Latham ever visited Polynesia.

(10) "Line Islands" or Fanning or Washington group. The Hydr. Pilot includes various other scattered islands under the heading "Line Islands." Some authorities claim these for the U. S., but most of them seem to be British in fact.

Bird (s. e. islet of Palmyra.

Christmas (40 x 35 mi.; low; lagoon id., covered with sand and coral rock, with scattered bushes and cocoanut and other trees; cocoanut trees are now "being planted," and the id. has been leased for this purpose for 99 years; no regular permanent inhab., and no regular ship connections.

Cook (islet at entrance to lagoon of Christmas id., 10 ft. high and sandy.

Fanning (9.5 x 4 mi.; very low; large and shallow lagoon; some guano formerly exported; very fertile; covered with cocoanuts 60-90 ft. high; an Englishman owned the id. and pressed cocoanut oil about 1876; now a cable station (cable from Vancouver Id., B. C., and Suva, Fijis); a "rifle range" has been erected for the employees, who have probably shot more at live targets; Union Co. steamers call every two months, and a schooner visits here about twice a year from Honolulu; only vessel entrance is English Harbor, on s. w. side. Some introduced "natives" collect copra.

New York [= Washington].

Observatory (s. w. islet of Palmyra.

Palmyra atoll (many (possibly 50) islets on reef; 5.2 x 1.5 mi., enclosing 3 lagoons; some islets with cocoanuts, others with less vegetation. Not inhab., but traces of former inhab. exist. Now a part of Territory of Hawaii, and owned by (Mr. --- Cooper, Pres. of College of Hawaii.

Prospect [= Washington]

Samarang [= Palmyra]

Strawn { islet of Palmyra

Uahuga [= Washington]

Washington	(3.5 x 1.2 mi.; 10 ft. high; fringing reef; some guano but
New York	not worked; has "fresh" water pond but water is said
Prospect	to be unwholesome; covered with fine cocoanuts and
Uahuga	other trees, with some bush; has "peat bogs"; some in-
	hab. (imported from Tahiti to press cocoanut oil); id.
	is "privately" owned; schooner visits here twice a year
	from Honolulu.

Alleged "guano" islands reported in this vicinity, and said to belong to the U. S.

America (alleged 3° 40' N.; 159° 28' W.).

Prospect (alleged 4° 42' N.; 161° 38' W.).

Samarang (alleged 5° 10' N.; 162° 20' W.).

Sarah Anne (alleged 4° 00' N.; 154° 22' W.).

(10) LINE OR FANNING GROUP.

Family _____?

"Quails."

Christmas: Bennett; Coulter.

Bennett (May, 1834-35) refers to land birds under this name. He cruised for three years or more in the Pacific, and paid considerable attention to birds, especially sea birds. His "quails" were probably land birds of some sort, though hardly pigeons, as he met ground pigeons on Caroline Atoll and identified them as "doves." It should be recalled, however, that some of the pigeons of this genus (Gallinucolumba) flush like quails, and Bennett only "saw" the birds here.

John Coulter visited Christmas Id. about the same time, and mentioned "occasionally getting a shot at a curlew, or on the land at a quail." (Adventures, etc., vol. I, 1847, p. 28.) If a quail, the bird must have been an introduced species, which perhaps flourished for a time, and later disappeared. As the ground pigeons did occur at Caroline Atoll, it is possible that they ranged as far as Christmas Island, and if so, the species would be new.

PUFFINIDAE.

?Macronectes giganteus (Gmelin). Giant Petrel.

?Christmas: Gray.

Wiglesworth suggests that a mistake may have been made here, and that Christmas Harbor, Kerguelen Id. is the more likely explanation.

He says the "species certainly occurs in Polynesia", but he gives no other record.

Puffinus obscurus (Gmelin). (Type locality: Christmas.)

Christmas: Latham.

No recent record, and Mathews suggests it may occur only in the breeding season. He refers to it under the name P. lherminieri dichrous Finsch & Hartlaub.

Puffinus nativitatis Streets. (Type locality: Christmas.)

Christmas: Streets, breeding in January.

Puffinus "chlororhynchus" = pacificus, subspecies.

Loomis (Auk, 1919, 487) says it has been obtained on the Fanning Islands, though Wigglesworth does not record it from this group. Possibly it is one of the preceding, under another name.

Pterodroma alba (Gmelin). (Type locality: Christmas.)

Christmas: Latham (ex Banks collection); Streets.

Loomis (Auk, 1920, 88) identifies this species with Procellaria parvirostris Peale, after comparing two specimens from Christmas Id. (collected by Streets) with the descriptions given by Latham and Gmelin, though a series from here and from the Tuamotus (the type locality of parvirostris) may prove them to be different.

Streets found "parvirostris" breeding in January, with eggs.

STERNIDAE.

Onychoprion fuscatus (Linnaeus). Sooty Tern.

Christmas: Latham; MacFarlane--breeding in great numbers
on Oct. 16, 1884.

Palmyra: Streets--abundant and breeding in December, at
extreme east end of island.

Sterna vittata Gmelin. (Type locality: Christmas Island.)

?Christmas: Latham.

Reported from this island, which is its alleged type locality, but
Saunders and Wigglesworth think an error was made and that Christmas
Harbor, Kerguelen Id., was the locality in fact. The species occurs
at the last named place, and Cook's vessels stopped there. Not other-
wise recorded from Polynesia.

Sterna australis Gmelin. (Type locality: Christmas.)

Christmas : Latham.

Not known since Cook's time. Related to S. frontalis Gray, from
the s. w. Pacific, but said to be smaller. Saunders makes it a doubt-
ful synonym of S. virgata, and thinks this is another mistake for
Christmas Harbor, Kerguelen Id.

Anous stolidus pileatus (Scopoli).

Christmas: Streets--breeding in January.

Fanning: MacFarlane.

Palmyra: Streets--breeding in December.

Washington: MacFarlane.

Megalopterus melanogenys (Gray).

Fanning: Arundel.

Procelsterna cerulea (Bennett). (Type loc.: Christmas and other

Fanning: Arundel. islands.)

Christmas: Bennett; Macfarlane--eggs on Oct. 7, 1884.

Gygis alba candida (Gmelin). (Type loc.: Christmas and other ids.)

Christmas: Latham; Bennett--very numerous, with eggs in May;

Streets--eggs in January.

Fanning: MacFarlane; Arundel--breeding in "considerable numbers."

Palmyra: Streets--eggs in December.

SCOLOPACIDAE.

Phaeopus tahitiensis (Gmelin). Bristle-thighed Curlew.

Christmas: Bennett--common in May; Gray; Streets--common in January.

Fanning: Arundel.

Palmyra: Streets--more common than on Christmas, in Dec.

Streets says it occurs on the "other" islands of the group, but he does not enumerate the islands by name; his observations were made in December and January.

Heteroscelus incanous (Gmelin). Wandering Tattler.

Christmas: Streets (in Jan.).

Fanning: Arundel.

Palmyra: Streets (in Dec.).

Aechmorrhynchus cancellatus (Gmelin). (Type loc.: Christmas.)

Christmas: Latham (ex Banks collection); Ellis.

Not recorded since Cook's time, and no example now extant. If cats or pigs have not run wild here in the interval since Cook's visit, there is a fair chance the species may still exist, for this short-billed sandpiper was almost too small to be pursued for sport or food, and the island is large enough (40 x 35 miles), with much sand and coral rock, sufficient to sustain a bird of this kind. A close ally has been found on three islands in the Tuamotu group, about 2000 miles away, and probably occurs on more of them. (See under next species.)

The few "collectors" who have visited Christmas and other islands of this group seem to have done very indifferent work. Streets was a U. S. Naval surgeon; MacFarlane was a British Naval man, and Arundel was mainly interested in the exploitation of guano and cocoanut-oil; all of them pure amateurs.

Crocethia alba (Pallas). Sanderling.

Christmas: Streets--common.

Palmyra: Streets--more common.

This identification is by Wilesworth; Streets called it "a species of Tringa", and it is not improbably that this was Aechmorhynchus cancellatus! Streets did not get any specimens.

CHARADRIIDAE.

Pluvialis dominicus fulvus (Gmelin). Pacific Golden Plover.

Christmas: Streets--common; Ellis.

Fanning: Arundel.

Palmyra: Streets--more common than on Christmas.

ANATIDAE.

Chaulelasmus couesi Streets. (Type locality: Washington Id.)

Washington: Streets.

The fresh-water lake and peat bogs are "tenanted" by this species, according to Streets.

"Duck."

Fanning.

The Hydrographic Pilot says "Snipe, duck, and curlew can be shot" on Fanning Island, but no date is given. If this be true, the duck may be the preceding, or a species not yet recorded from the group. In view of the reported migration of C. streperus from America to the Marshall Islands, it would be well to re-examine the types (a pair of supposed immature birds) of C. couesi, to determine if they may not be immature C. streperus.

PHAETHONTIDAE.

Phaethon aethereus Linnaeus.

Christmas: Gray.

Phaethon rubricaudus Boddaert.

Christmas: Bennett--"many", with eggs in May; Streets--
breeding, with eggs in Jan.; Macfarlane.

SULIDAE.

Bennett (I, p. 383) says of Christmas Island birds: "The boobies are of a kind peculiar to this island. In size and colour they bear a

close resemblance to gannets. Their plumage is white, with the exception of the primary and secondary feathers of the wings, inferior portion of the scapulas, and rectrices, or tail feathers, all of which are black. The naked skin of the cheeks and chin is black; the beak yellow-blue; the legs blue. Their nests were circular heaps of sand, raised upon the open plain," etc. He found eggs on May 8.

Sula dactylatra Lesson. (Formerly S. cyanops; Blue-faced Booby.)

Christmas: Streets--breeds (Jan.) but is not abundant.

Palmyra: Streets--breeding in Dec., all immature and in the leucogastra "style of dress."

Streets suggests the immature-plumaged birds may be "ostracised" until they become full-colored, and says the birds in immature plumage never nest among those in adult plumage. Possibly another form is concealed here! (See notes by Bennett, above.)

Sula piscator (Linnaeus). Red-footed Booby.

Christmas: Streets--had eggs in Jan.

Fanning: Streets.

Palmyra: Streets--their principal breeding place, but nesting over in December.

Christmas Island has no fresh water; rarely rains; vegetation scant and stunted; no trees. Palmyra is quite the opposite, which may account for the different breeding seasons on the two islands; or, two species may be involved here.

Sula leucogastra plotus (Forster).

Christmas: MacFarlane.

SYLVIIDAE.

Tartare Arundeli. (Type loc.: Christmas.)

"The Kokikokiko, probably Tartare Arundeli. This is a warbler a very small bird which lives on insects and flies. The li creature cannot fly more than a few yards. The nest is attached to the fork of a tree and well done and deep, with 3 to 4 eggs marked or spotted black on white. The bird is very inquisitive and will approach a few feet from your hand. Same bird at Fanning and Washington and is the only bird known there."

(Supplementary note from letter of June 4, 1925)

By Chas. W. Richmond

FREGATIDAE.

Fregata "aquila."

Christmas: Streets; MacFarlane.

Palmyra: Streets.

Fregata "minor." "Lesser Frigate bird" of Streets.

Christmas: Streets. }

Palmyra: Streets. }

Not abundant, and not breeding in Dec.
or January.

LORIIDAE.

Vini kuhli (Vigors). (Type locality: ?Tetuaroa, Society group?)

Fanning: Fanning (in 1798); Streets; Arundel--"not uncommon."

Washington: Bourjot St.-Hilaire; Finsch; Streets--fairly
numerous.

SYLVIIDAE.

Conopoderas aequinoctialis (Gmelin). (Type loc.: Christmas.)

Christmas: Latham; Bennett?; Streets? Ellis.

Bennett, in May (1834-35), found a small land bird "the size and colour of a sparrow", which was very likely this species. Streets got some on the western side of the island, in Dec., 1873, but they were lost in transit and never reached Washington. He refers to them as a "flycatcher-like bird", and the only land bird seen. This species therefore probably occurred up to 1873, and may still occur there, though no definite record has been made since the time of Cook's visit, in December, 1777, and no specimens exist in museums.

Conopoderas pistor (Tristram). (Type locality: Fanning Id.)

Fanning: Arundel.

?Washington: Streets.

The distinctions between this species and the preceding were determined by Tristram through comparison of his specimens with the original description of æquinotialis. Dr. Streets got some skins of probably the same species on Washington Island, which he identified as a "flycatcher-like bird"; these he intended to send to the Smithsonian, but they were lost. They were different from the Christmas Island bird, for he says "a bird similar to these, but smaller and somewhat browner--which I think can be accounted for by the altered condition of its surroundings--was found on Christmas Island, where it was the only land bird."

(9) GENERAL NOTES ON CAROLINE ATOLL, ETC.

Caroline Atoll. There seems to be no systematic or technical account of the birds of this atoll, which consists of about 25 islets, "well covered with trees and shrubbery" in 1883, "much of which has been planted by the hand of man, especially large numbers of cocoa palms, which are being raised for the production of cocoanut-oil." At this time there was a sign posted on the island saying it had been leased to Houlder, Bros., and Co., London, by Great Britain. Four men, one woman and two children were living here in 1883.

Apparently the only birds recorded from the island are those noted by F. D. Bennett, in April, 1835, and an amateur list furnished by Dr. W. S. Dixon, U. S. N., of the 'Eclipse' expedition, May, 1883 (Mem. Nat. Acad. Sci., II, 1884?, pp. 90, 91). In all probability the observations of both Bennett and Dixon relate to simply one of the larger islets (though perhaps not the identical one), and exploration of some of the others may still disclose the presence of a ground pigeon, and possibly other land birds, or of the rare short-billed sandpiper (Aechmorrhynchus). MacFarlane stopped here in October, 1884, but "no birds were obtained." He does not say whether he actually landed and looked for birds, or not.

Malden Island. Seems to be little known, ornithologically, and the only account of its birds seems to be one by W. A. Dixon, who spent two and a half years here (1866-69). He was a chemist, sent there to analyze guano, and knew nothing about birds. His notes cover 14 species

of breeding birds, and 5 "occasional visitors." He says the guano party "turned out some pigs and goats", and "some of the cats ran wild", soon becoming very numerous. "The rats got so numerous that we used to kill them in thousands; in the store we killed some twenty thousand in two months." The utility of the cat is well demonstrated by his remarks: the rats increased greatly, while the "wide-awake" terns were reduced to one-fifth of their former "acreage" in a couple of years!

The 'Blonde' party (1825) obtained or observed a few birds on Malden, and one Campbell collected two species which fell into Seebohm's hands and later into the British Museum.

There appear to be no bird records from Monahiki, nor from Rakaanga, though both islands ought to be looked over for traces of reed warblers (Conopoderas), ground pigeons, and small flightless rails. The latter have been recorded from various widely separated islands in the Pacific (Laysan and Id. of Hawaii; Henderson, in the Tuamotus; Kusaie, in the Carolines; Tahiti; Tongatabu, etc.), and must formerly have existed on many of the intermediate islands. Their present occurrence or absence can be proved only by searching the islands for them. If any are found, they will doubtless prove to be new species. The Conopoderas vary in size and in color according to islands and groups, those of the north (Laysan, Guam, Carolines, and Fanning Ids.) being much smaller than the southern ones from the

Marquesas and Tuamotu groups, for example. On some of the small islands, where the number of individuals is small, and "in-breeding" frequent, there is a decided tendency to albinism. In general shape, these birds are somewhat like our catbird, but in habits they appear to resemble the marsh wren. Their colors are dull browns, buffs or grayish browns, with lighter buffy or yellowish underparts. There are no marked color patterns or patches of color that stand out prominently, such as a throat or breast patch of color; the underparts are buffy or yellowish of various shades, and the upperparts darker, of browns or grayish browns. There is a possibility that Conopoderas may be found on Caroline atoll, Flint, Tongareva and Vostok, but hardly on Jarvis, Malden, or Starbuck.

There are no clues available as to what may occur in the way of Tubinares on the several islands, other than is given in the following pages.

Lieut. J. R. H. MacFarlane, R. N., made a trip through several of these islands, in October, 1884, but he had little time to spend on any of them, and at some he did not land at all. His interests were directed to terns and other sea birds, but the results show he was a pure amateur.

- (9) Islands south of Line or Fanning Group (betw. 0° and 15° S.) These are included, with others, among the "Line" Ids. by the Hydr. Pilot.

Anne (may = Vostok?)

Bennet [= ?Tongareva]

Brocke [= Jarvis]

Bunker [= Jarvis]

Caroline (group of about 40 low coral islets with one fringing reef
7.5 x 1.2 mi.; one narrow and crooked entrance for boats;

Thornton. 15-20 ft. high; cocoanut and some other trees, such as pandanus, and shrubbery; some patches of grasses 1-2 ft. high; some sandy places near lagoon, but soil otherwise mostly rounded fragments of coral; linear islets surround the lagoon, with the dry land "only a few hundred yards in width"; guano was exported from about 1872 to about 1881, when cocoanut trees were planted by one Arundel, who also planted them on Flint id.; since 1902 has been leased to Levers Co., for 99 years; visited by American, French and British parties in 1883 (April-May) for purpose of observing eclipse (see report in Mem. Nat. Acad. Sci., the British. II, 1883). F. D. Bennett observed birds here in early part of last century, and eclipse party added a few more in 1883. No natives extant, though a few have been imported for work. Hogs were fattened here, circa 1869, the work being undertaken by 4 men.

Dudosa [= Victoria]

Flint (low guano id.; 2.5 x 0.5 mi.; bushes and low trees; cocoanuts now planted by Levers Co. (leased for 99 years); has two

Belongs to small brackish lagoons; formerly worked for guano, and the British. later for 20 years for cocoanuts; sailing vessels from Tahiti come here twice yearly. In 1891 there was a "grove of tall trees near the centre of the island".
 $11^{\circ} 25' 43''$ S., $151^{\circ} 48'$ W.

Mac Farlane obtained no birds here.

Grand Duke Alexander [= Rakaanga]

Here [= Starbuck]

Humphrey [= Monahiki]

Independence [= Malden]

Jarvis (1.7 x 1 mi.; 10-12 ft. high; of raised coral; no lagoon now;

Brocke. mostly guano; no trees, few shrubs, and little grass;

Bunker. guano work was stopped by or before 1883-85, owing to inferior quality; when Mac Farlane was here (in Oct.) the

Belongs to only humans had left, but a cat was found "in possession the British. Of the house"; "no birds" were seen by him, though he only

observed sea birds, apparently. Was uninhab. in 1887, but a N. Z. firm proposed to "occupy" it. 0° 22' 30'' S., 160° 03' 00'' W.

Malden (5 x 4 mi.; 30 ft. high; worked extensively for guano (formerly at least, and a few guano workers lived here); traces of former inhabitants exist in stone ruins; no fresh water now (but was some as late as 1825); formerly had some clumps of trees and bushes (1825) but now only a few shrubs and bushes; vessels from New Zealand at intervals. Mac Farlane saw no birds here in Oct., 1884. 4° 05' S., 155° W.

Manahiki [= Monahiki]

Mangorongoro [= Tongareva]

Manihiki [= Monahiki]

Matunga (islet of Tongareva, and a leper colony.

Molokai

Molokai [= Matunga]

Monahiki (6 x 5 mi.; triangular; 60 ft. high (to tree tops); closed lagoon; covered with cocoanuts; inhab.

Humphrey.

Manahiki.

Manihiki. British, and a dependency of N. Z.

Penhryn [= Tongareva]

Penrhyn [= Tongareva]

Rakaanga (very low; no lagoon; trees are 60-70 ft. high; soil poor and

Grand Duke shallow; inhab.; about 20 mi. n. by w. of Monahiki.

Alexander. British, and a dependency of N. Z.

Rakahanga.

Reirson.

Rokahanga.

Rakahanga [= Rakaanga]

Reirson [= Rakaanga]

Rokahanga [= Rakaanga]

South (islet of Caroline atoll.

Starbuck (5.5 x 2 mi.; 15 ft. high; has been worked for guano but now

Hero. deserted; mostly white coral sand, covered with "green

Volunteer. tangle and ice weed", and a few shrubs on n. e. part.

When the 'Blonde' passed it, in 1825, it was less inviting than Malden, there "not being even the trees to enliven the flat coral rock."

When Mac Farlane visited it Oct. 15, 1884, Sterna fuliginosa was breeding. Was leased to J. Arundel till 1915, & he may have planted cocoanuts on it. Moss, who visited it in 1886, with a party to rescue 4 seamen who had been shipwrecked

there 3 months earlier, refers to it as "a worked-out, deserted guano islet."

British.

Staver (or Stavers) [= Vostok]

Tepuka (s. e. islet of Tongareva; inhab.

Tetautua (islet at e. end of Tongareva; inhab.

Thornton [= Caroline]

Tongareva (atoll, 12 x 7 mi.; 50 ft. high (to tree tops); lagoon is 9

?Bennet mi. diam., and contains 15 islets; wooded (especially

Mangorongoro. cocoanuts); few inhab. About 5 times yearly a schooner

Penhryn or mission steamer visits here from Rarotonga.

Penrhyn British, and a dependency of N. Z.

Tongarewa 9° 06' 25'' S., 158° 02' 10'' W.

Islets: Matunga, Tetautua, Tepuka.

Tongarewa [= Tongareva]

Victoria (existence doubtful; location about 7° 30' S., 160° 30' W.

Dudosa. (Brigham), or 6° 45' S., 160° 42' W. (Hydr. Pilot)

Volunteer [= Starbuck]

Vostock [= Vostok]

Vostok (0.3 mi. diam.; low; sandy, thickly covered with low trees (about

?Anne 80 ft. to tops of trees); surrounded by narrow fringing

Staver - reef; landing is on w. side; leased to Levers Co. in

(Stavers) 1902, for 99 years.

Vostock Belongs to Great Britain.

Wostock

Wostok

Wostock [= Vostok]

Wostok [= Vostok]

Alleged islands, said to belong to the U. S.

Anne (alleged 9° 49' S., 151° 15' W.). Should be near Caroline. (by some thought to be = Vostok)

Barren or Starve (alleged 5° 40' S., 155° 55' W.) Should be near Starbuck.

Bauman (alleged 11° 48' S., 154° 10' W.) Should be near Flint. (The

Bauman Ids. have been identified also with the Samoan group)

Frances (alleged 9° 58' S., 161° 40' W.) Should be near Rakaanga.

Friehaven (alleged 10° 00' S., 156° 59' W.) Should be near Vostok.

Ganges (alleged 10° 59' S., 160° 55' W.) Should be near Rakaanga.

Groningen (may be a synonym of Groningue)

Gronique (alleged 10° 00' S., 156° 44' W.) Should be near Vostok.

Lideron (alleged 11° 05' S., 161° 50' W.) Should be near Rakaanga.

Pescado (alleged 10° 38' S., 159° 20' W.) " " betw. Tongareva & Rakaanga.

Roggewein (alleged 11° 00' S., 156° 07' W.) " " near Vostok.

Starve [= Barren]

An island (possibly one of the above) about 30 ft. high, has been

reported in $11^{\circ} 23' \text{ S.}$, $153^{\circ} 43' \text{ W.}$
Tienhoven Id.

(9) ISLANDS SOUTH OF LINE OR FANNING GROUP.

CAROLINE ATOLL.

PERISTERIDAE.

?Gallicolumba, species.

Bennett found (April, 1835?) "The inland thickets contained a great number of small pigeons, with white head and neck, and the rest of their plumage of a rich brown colour." There is little or no doubt as to the genus, but the species may never be known. About 1869, four men were fattening hogs on cocoanuts at Caroline Atoll, for the Tahiti market, and the hogs are likely to have exterminated these ground pigeons. No pigeons were noted by the 'Eclipse' party, in May, 1883, and probably they were exterminated long before this time. There is a possibility, however, that remnants of the species may still exist on some of the islets forming this atoll.

?RALLIDAE.

?Fulica or ?Porphyrio.

Bennett found a bird "resembling a coot" on the coast.

?LARIDAE.

"Seagull."

The 'Eclipse' Party, May, 1883, recorded "two species" of "Seagull", but they may have mistaken tropic-birds for gulls, as they recorded no species of Phaethon.

STERNIDAE.

Gygis alba pacifica (Lesson).

Bennett (April, 1835?) found them in "myriads" here, and the 'Eclipse' party (May, 1883) records a small snow-white tern which was doubtless this form. Caroline atoll is the type locality of Bennett's Sterna nivea.

?Anous, species.

The 'Eclipse' party, May, 1883, records "Noddies."

SCOLOPACIDAE.

?Phaeopus tahitiensis (Gmelin).

Both Bennett and the 'Eclipse' party record curlews.

"Snipe".

The 'Eclipse' party records a species, which may be the same as the following.

"Totanus".

Bennett (April, 1835?) records a species with legs of "lemon-colour", but otherwise like one he had found at Raiatea, Society group, which had blue legs. Probably this is Heteroscelus, but the possibility of the rare Aechmorrhynchus occurring here should not be overlooked.

CHARADRIIDAE.

?Pluvialis dominicus fulvus (Gmelin).

The 'Eclipse' party records a "Plover." (May, 1883.)

ARDEIDAE.

?Demigretta sacra sacra (Gmelin).

The 'Eclipse' party records a heron, "probably ardea jugularis, two varieties, brown and white."

SULIDAE.

Sula, species.

Bennett, about April 23, 1835?, found a booby which he described as gray, darker on the back and wing-coverts than on abdomen; rump and tail "perfectly white." Beak blue and encircled at base with rose color; naked skin of cheeks also blue, black below the lower mandible; legs brick red. (Bennett, I, p. 371.) He was of the opinion, from noting the fresh colors of boobies in various parts of the Pacific, that there must be several unrecognized species in that region.

Sula, species.

The 'Eclipse' party (May, 1883) records "Gannets" as numerous, and on their nests; also a "Booby", indicating probably the presence of two species of Sula on the island.

FREGATIDAE.

Fregata, species.

Bennett found them in "myriads", and the 'Eclipse' party recorded them in "great numbers".

?SYLVIIDAE.

?Conopoderas.

Prof. E. S. Holden, of the 'Eclipse' party, in May, 1883, "reports hearing the notes of a singing bird, but he did not see the bird." Conopoderas is the most likely singing bird for Caroline Atoll, as the genus has representatives north, south, and east of here, but the species would be undoubtedly new.

M A L D E N I S L A N D .

TUBINARES.

Bennett, about April 23, 1887, found a booby which he described as gray, darker on the back and wing-coverts than on the head; rump and tail "perfectly white." Back blue and underparts also blue, black below the throat; legs brick red. (Bennett, l. p. 371.) He was of the opinion that there must be several unnamed species in that region.

Sula, species.

The 'Solips' party (May, 1883) recorded "Gannets" as seen and on their nests; also a "Booby", indicating probably the presence of two species of Sula on the island.

PHALACROCORACIDAE.

Puffinus, species.

Bennett found them in "great numbers", and the 'Solips' party recorded them in "great numbers".

STELTERIA.

Stelternidae.

Prof. W. S. Heiden, of the 'Solips' party, in May, 1884, "reports hearing the notes of a singing bird, but he did not see the bird." Stelternidae is the most likely singing bird for Caroline Atoll, as the genus has representatives north, south, and east of here, but the species would be undoubtedly new.

M A L I N I S L A N D .

STELTERIA.

?Puffinus, species.

At the end of July, 1825, the 'Blonde' party found a "procellaria, not unlike the Procellaria alba of Linnaeus."

W. A. Dixon (1866-1869) records three species of "puffinas or mutton birds," as regular breeding species. These laid their eggs "in holes dug in soft ground or between rocks."

"Prians."

Dixon includes "three species of prians, slate-coloured, pure white, and black", among the regular breeders of this island; but, he says, "The prians lay on the edge of a rock or stone, and the egg being of exactly the same colour is only seen with difficulty; they are quickly hatched, and in ten days the young have flown." This description of the nesting habits points to something without the Tubinares group, but evidently there are three species of breeding birds that appeared to belong to the same "genus" to this amateur observer.

"Small petrel."

Dixon reports this as an "occasional visitor" to Malden.

STERNIDAE.

Gygis, species.

The 'Blonde' party found it in July, 1825, and this may be their Sterna Maldensis, which is described simply as "A white tarn, differing but in a few points from Linnaeus's Sterna alba."

?Onychoprion, species.

Pringia, species.

At the end of July, 1883, the 'Blonde' party found a

"procellaria, not unlike the Procellaria alba of Linnæus."

W. A. Dixon (1886-1889) records three species of "pringia"

or "pringia birds," as regular breeding species. There said their eggs

"in holes dug in soft ground or between rocks."

"Pringia."

Dixon includes "three species of pringia, alba-colored,

pure white, and black", among the regular breeding species of this island.

But, he says, "The pringia lay on the edge of a rock or stone, and

the egg being of exactly the same color is only seen with difficulty.

They are quickly hatched, and in ten days the young have flown."

This description of the nesting habits points to something without

the pringia group, but evidently there are three species of pringia

the birds that appeared to belong to the same "group" to this writer

observer.

"Small pringia."

Dixon reports this as an "occasional visitor" to Midway.

Pringia.

Pringia, species.

The 'Blonde' party found it in July, 1883, and this was

the first species of pringia, which is described simply as "a white bird"

afterwards in a few points from Linnæus's Pringia alba."

Pringia, species.

"Two terns, or wide-awakes" are reported by Dixon, who says they lay twice a year, in October and April. He writes: "On my first arrival on the island the flock would in this way cover 5 acres of ground, but in $2\frac{1}{2}$ years the number had been reduced to one-fifth, principally in consequence of cats which had run wild and increased with extraordinary rapidity."

?Anous, species."

The "Crow" reported by Dixon as one of the fourteen regular breeders on the island was probably a noddy.

SCOLOPACIDAE.

?Phaeopus tahitiensis (Gmelin).

?Heteroscelus incanus (Gmelin).

Dixon refers to a "snipe or sandpiper, and curlew" as "almost always on the island, either on the edge of the reef or near the small lagoons, but they did not breed there."

There is a specimen of Heteroscelus incanus in the Brit. Museum, collected by "C." Campbell.

?ANATIDAE.

?Duck.

Dixon refers to "a dark grey duck" as an occasional visitor to the island.

PHAETHONTIDAE.

Phaethon rubricaudus Boddaert?

The 'Blonde' party found red-tailed tropic-birds at the

end of July, 1825, and Dixon reports "The tropic bird, phaeton," as one of the regular breeders.

SULIDAE.

Sula piscator (Linnaeus).

A skin in Brit. Museum, collected by "A." Campbell.

Sula, species.

Dixon refers to "Three sulus or boobies, white, black, and grey" among the regular breeding species of the island, and observes that the gray booby was the only bird on the island to build a nest.

FREGATIDAE.

Fregata, species.

The 'Blonde' party found a "new species", which they called (but did not describe) "Pelicanus candida"; this was breeding at the end of July, 1825, when it had eggs. Dixon lists the "frigate bird, Tachepetes aquilis" as a regular nesting species, with eggs in Dec. and June.

?ACCIPITRES.

Dixon enumerates "a bird somewhat like a kestrel hawk, which lived on lizards", as an occasional visitor.

STARBUCK ISLAND.

STERNIDAE.

Onychoprion fuscatus (Linnaeus).

MacFarlane found it breeding on Oct. 15.

{ He did not land,
but could see a
"Wide-awake fair"
from the ship, and
shot one bird from
a boat.

TONGAREVA ISLAND.

MacFarlane stopped here Oct. 25, but says "no birds were observed." The island at that time (1884) had a population of 3 whites and 370 "natives."

VOSTOK ISLAND.

Megalopterus melanogenys (Gray).

MacFarlane got two skins "and some of their eggs" on Oct. 22, 1884. He makes no further comment on the presence or absence of birds, but observes that the island was uninhabited at this time.

(6) GENERAL NOTES ON HERVEY OR COOK GROUP.

Note on "Hervey" or "Harvey" Island.--Cook discovered this island (= Auotu and Manuae, on one reef) in 1773. The references to birds from "Harvey" or "Hervey" island in the following list, recorded by Cook, Latham, and Gray, doubtless belong to this locality. Brigham says both these islands are "barren", but the Hydrographic Pilot and Findlay both state they are "well wooded". There is said to be considerable cocoanut-oil exported, so probably the trees are chiefly cocoanuts. Specimens of the fruit pigeon (Ptilinopus), if it still occurs, will contribute greatly to an understanding of the status of Ptilinopus chalcurus Gray. There appear to be no modern records of birds from Auotu or Manuae.

Explorers and collectors who have visited the group include:

Cook (2d voyage), Auotu and Manuae, Sept., 1773; the Forsters and Dr. Sparrman were naturalists.

Voyage of the 'Blonde' (under Lord Byron), Mauiki, Aug. 9, 1825;

Andrew Bloxam is credited with having made the observations on natural history. The party found several species that are indeterminate from data at hand, such as a green fruit pigeon, a pigeon named "Columba byronensis" (but not described), a kingfisher, and a "hawk". They also observed: "As we retraced our steps through the wood, the warbling of the birds,

whose plumage was as rich as it was new to us", etc., showing there were a variety of birds on this island at the time of their visit.

Voyage of the 'Sulphur' (under Capt. Edward Belcher), visited Rarotonga about 1837-40? Dr. Hinds gathered some material on the voyage, but possibly nothing from this group.

Andrew Garrett is said to have spent 6 months "collecting" on Atiu, Aitutaki, and Rarotonga, but there seem to be no birds of his recorded from the first two islands. He was at Rarotonga about 1870, but must have devoted his time chiefly to other things, as he only secured 17 skins (7 species) of birds. He obtained many shells in Polynesia, and probably other objects.

H. Travers obtained some birds at Rarotonga.

Lt.-Col. Gudgeon obtained 9 species at Rarotonga in March, 1901, which were sent in formalin, and later skinned at Brit.

Mus. His birds were recorded by Ogilvie-Grant (Ibis, 1905, 599-601); among them was a pair of the "Monarcha" dimidiata, which Gudgeon regarded as a very rare bird.

Agassiz Exped. to the Tropical Pacific. Stopped half a day at Aitutaki, Nov. 21, 1899, but Townsend says he had little time for collecting. He only got the lory, which, perhaps, is an introduced species on this island.

Scott B. Wilson visited Rarotonga in 1904, and says Col. Gudgeon, the Administrator, "expressed the opinion that there were very few species of birds left on the island; and this opinion was certainly confirmed by my non-success, as during my stay of nearly a month I observed only three or four different forms." Wilson was of the opinion that the native species will be extinct in a few years, "owing to the increasing plantations of cocoanuts and bananas," coupled with the frequent cyclones and the "wild" cats. Wilson does not speculate on the conditions (actual or probable) in the other islands of the group, but it looks as if a bird survey of the remaining islands should be made without much delay.

Modern bird records from this group are chiefly from Rarotonga, with little or nothing known of the birds of Aitutaki (a lory only), Atiu, Mangaia, Auotu, and Mammae (nothing since Cook's visit), Mauiki (only the amateur records of the 'Blonde' party, in 1825), Mitiéro, Palmerston (mostly ancient Cook records), and Takutea. All of them, except Mitiéro and Palmerston, with possibly Mangaia, are said to be well wooded, and may support some of the species formerly prevalent on Rarotonga. No rail, ground pigeon, or Conopoderas has been reported from the group, but they should be looked for, as these birds occur both east and west of the Hervey group.

(6) Hervey or Cook Group (including Palmerston).

(Brigham says "Hervey" applies properly to the 2 northern ids., Aitutaki and Manuae.)

Inhabitants are Christians. Climate good, and heat not oppressive. Hurricanes occasional, chiefly from Dec. to March.

Administered by New Zealand. The islands are visited "regularly" by steamer from Auckland, N. Z.

Aitutaki (3.5 mi. long or about 18 mi. circ.; volcanic formation; high (450 ft. at n. part, where mostly bare); extreme n. end is low and swampy; on n. w. side is a steep rocky cliff 200 ft. high; well wooded and watered; reef on s. w. coast; 8 wooded ids. and 6 low sand cays on reef.

Whytootake

Anotu [= Auotu]

Armstrong [= Rarotonga]

Arorangi (see under Rarotonga)

Atiu (20 mi. circ.; 394 ft. high; of uplifted coral; bold rocky cliff (shore on n. side, with some sandy bays; said to have extensive caverns; thickly wooded generally; coffee and fruits are grown; inhab.; reef fringes shore.

Atui

Vatiu

Wateeo

Wateooo.

Atui [= Atiu]

Auotu (twin islet with Manuae on one reef; well wooded; inhab.

Anotu.

Uitate

Avarau [= Palmerston]

Cook Islands (portion of Hervey group)

Drotai (doubtful id. reported in 27° 17' S., 159° 40' W.; if extant it (may be equivalent to Tuanahae.

Fenua iti [= Takutea]

Harvey [= Hervey]

Hervey = name formerly applied to one of the ids., doubtless Auotu and Manuae.

Mahowarah (of Cook) may = Mitiero or Mauiki

Maina (small wooded islet of Aitutaki; uninhab.

Manaia [= Mangaia]

Mangaia (20-30 mi. circ.; 656 ft. high; volcanic in origin; coffee is (grown; inhab.; centre of Protestant mission in central Pacific; (fringing reef, with no entrance. Pigs, turkeys, etc. are produced here. About a dozen schooners visit here each year, chiefly (from Tahiti and Rarotonga.

Manaia

Mangea

Mangeea

Mangea [= Mangaia]

Mangeea [= Mangaia]

Mamae (wooded islet on reef with Auotu; few inhab.

Manuai

Mamui [= Manuae]

Mattiaro [= Mitiero]

Mauiki (6 mi. circ.; "70" or "40" ft. high; said to have extensive
(caverns; well wooded; fertile; fringing reef, with no opening,
(and no lagoon; inhab. (missionaries were here before 1825).
(Landing place on w. side.

Mauki

Mauti

Parry

Mauki [= Mauiki]

Mauti (of Byron) [= Mauiki]

Metiero [= Mitiero]

Mitiaro = Mitiero

Mitiero (10 mi. circ.; 50 ft. high; "very barren", but clump of trees in
(centre of id.; inhab.; deep lagoon, but no opening in reef;
(landing place on w. side.

Mattiaro

Metiero

Mitiaro

Motikitiu (small wooded islet of Aitutaki; uninhab.

New (doubtful island assigned to 24° 20' S., 159° 30' W., or 24° 0' S.,
(159° 10' W.

Oruruti (possibly = Ruruti)

Otakootaia [= Takutea]

Palmerston (consists of 8 sandy islets on reef 4.5 x 2.5 mi., enclosing
(lagoon (with passage); southern four islets covered with
(shrubs and palms; the northern ones are without vegetation;
(inhab. since about 1862. 18° 04' S., 163° 10' W.

Avarau

Parry (of Byron) [= Mauiki]

Rarotonga (6 x 3.5 mi.; volcanic origin; mts. rise in pinnacles and peaks,
(covered with vegetation, and reach 2100 (or 2930) ft.; some of
(the peaks are razor-backed, but one (at least) is flat-topped;
(id. is fertile; inhab.; coffee is grown.

Arorangi) islets or rocks close to Rarotonga.
Titikaveka)

Armstrong

Rarotongo

Roxburgh

Roxburgh [= Rarotonga]

Ruruti (problematical uninhab. id. reported in 20° 20' S., 160° W.,
(or 20° 19' S., 160° 2' W. supposed to be about 50-60 mi. n. by
(e. of Rarotonga, but may be the same as the latter.

Oruruti?

Takutea (3 mi. circ.; 6 ft. high; white coral sand beach; fringing reef;
(well wooded, with cocoanuts and other trees; said to have no
(fresh water; no anchorage, but landing is possible on n. or

(n. w. side; uninhab., but has traces of huts.

Femua iti

Otakootaia

Wanecoaette

Wanioaette

Wenocaaette

Wemua-iti

Titikaveka (see under Rarotonga)

Tuanahae (doubtful id. reported in 26° 30' S., 160° 25' W., or 25° 50' S., 160° 55' W.

Tuanaka

Tuanaka [= Tuanahae]

Uitate [= Auotu]

Vatiu [= Atiu]

Wanecoaette [= Takutea]

Wanioaette [= Takutea]

Wateeo [= Atiu]

Wateooo [= Atiu]

Wenocaaette [= Takutea]

Wemua-iti [= Takutea]

Whytootake [= Aitutaki]

(6) HERVEY OR COOK GROUP.

TRERONIDAE.

Globicera pacifica (Gmelin). (Type loc.: Friendly = Tonga Ids.)

Rarotonga: Garrett; Wilson; Ogilvie-Grant.

Wilson thinks it will become exterminated in the not distant future by the wild cats and the "frequent cyclones" that occur there.

Salvadori (Brit. Mus. Cat.) says it is not certain this is true pacifica.

Ptilinopus rarotongensis Hartlaub & Finsch. (Type locality:
Rarotonga.)

Rarotonga: Garrett; Wilson; Ogilvie-Grant.

Wilson did not find the bird himself, but had one given him.

Ptilinopus chalcurus Gray. (Type loc.: "Hervey or Harvey" Id.)

"Hervey or Harvey" Id.: Gray.

This species was based on a specimen in the British Museum, said to be from the above named island, but the status of the bird and the identity of the island both appear to be in doubt. Wigglesworth thinks chalcurus is probably the young of rarotongensis; Salvadori makes it a synonym of his coralensis (which is not true coralensis), and thinks the locality given by Gray is wrong.

Forbes and Robinson record P. "coralensis" from the "Harvey Islands", based on a bird in the Museum of Liverpool, and probably identified by means of Salvadori's work. It would appear then, that at least

two specimens of this bird are extant, and that both are ascribed to "Hervey" Island. Not found by later collectors, and doubtless extinct on the larger (and usually visited) islands, but possibly still to be found on some small islet.

The 'Blonde' party found a species on Mauiki, but its identity is uncertain.

HYDROBATIDAE.

Pelagodroma marina passerina (Solander) Mathews. (Type locality:

Hervey group. east of Kermadec Islands.)

Mathews says this name may "later prove acceptable for a bird, either of the Kermadec breeding, or may be a Cook Island subspecies", but he gives no special locality in the Hervey group for the bird.

The 'Blonde' party (Aug. 9, 1825) saw "some tarn and petrels" at Mauiki.

PHAETHONTIDAE.

Phaethon aethereus Linnaeus.

Palmerston: Latham.

Phaethon rubricaudus Boddaert.

Hervey group: Latham.

Palmerston: Latham; Ellis.

FREGATIDAE.

Fregata minor palmerstoni (Gmelin). [Type loc.: Palmerston.]

Palmerston: Latham.

?ACCIPITRES.

"Hawk."

Mauiki: 'Blonde' party.

The 'Blonde' party saw a "hawk" on Mauiki, Aug. 9, 1825. The probabilities are that the bird was not a member of this order of birds.

LORIIDAE.

Coriphilus peruvianus (Müller).

Aitutaki: Townsend.

Townsend says it is the common pet of the natives, and will probably be found on several of the other islands of the group. There is a possibility that this and other species of lorries have been introduced into some of the islands (of this and other groups) to which they are not originally native, through the escape of captive birds.

CUCULIDAE.

Urodynamis t. taitensis (Sparrman).

"Hervey" Id.: Gray.

Rarotonga: Ogilvie-Grant.

ALCEDINIDAE.

"Alcedo Mautiensis" of the 'Blonde' party.

Mauiki: 'Blonde' party.

Found on the above island by the 'Blonde' party, Aug. 9, 1825, but not described by them, and identity still in doubt.

STERNIDAE.

Gygis alba pacifica (Lesson). (Type loc.: Society & Tuamotu Ids.)

Rarotonga: Garrett; Ogilvie-Grant.

Anous stolidus pileatus (Scopoli).

Hervey group: Gray.

Rarotonga: Ogilvie-Grant.

Palmerston: Ellis.

SCOLOPACIDAE.

Phaëopus tahitiensis (Gmelin).

"Hervey" Id.: Cook; Latham.

Takutea: Cook; Latham.

Palmerston: Mus. Liverpool.

A "species of Scolopax" (possibly this species) was seen on Mauiki, Aug. 9, 1825, by the 'Blonde' party.

?Æchmorhynchus cancellatus (Gmelin).

?Hervey group.

Gray records it, with a mark of doubt, from this group, but the record seems vague, and if true, the species would most likely prove to be parvirostris Peale.

Heteroscelus incanus (Gmelin). Wandering Tatler.

Rarotonga: Garrett; Ogilvie-Grant (March 7, 1901).

ARDEIDAE.

Demigretta sacra sacra (Gmelin). Reef-Heron.

Rarotonga: Garrett; Ogilvie-Grant.

Mauiki: 'Blonde' party.

The 'Blonde' party saw a "blue and white heron" on Mauiki; without doubt this species.

ANATIDAE.

?Anas, species.

Mauiki: 'Blonde' party.

The 'Blonde' party saw a "fine duck" on Mauiki, Aug. 9, 1825; this was probably one of the subspecies of superciliosa.

MUSCICAPIDAE.

"Monarcha" dimidiata Hartlaub & Finsch. (Type loc.: Rarotonga.)

Rarotonga: Garrett; Ogilvie-Grant (1901).

This was described as a Monarcha, and later placed in the Hawaiian genus Chasiempis, but in all probability it belongs to a distinct group.

"EULABETIDAE."

Aplonis cinerascens Hartlaub & Finsch. (Type loc.: Rarotonga.)

Rarotonga: Garrett; Wilson; Ogilvie-Grant.

Wilson, who was at Rarotonga in 1904, found it still fairly abundant, though he was of the opinion that the native birds were doomed to extinction in a few years, owing to the increasing cultivation of bananas and cocoanuts; meaning, probably that new land is cleared for planting, and in this way wiping out the remaining forest.

The 'Blonde' party met with a "starling" at Mauiki, on Aug. 9, 1825; possibly this species.

(20) RAPA AND VICINITY.

TRETERONIDAE.

Ptilinopus huttoni Finsch. (Type loc.: Rapa.)

Rapa: Hutton.

The type, a female, collected by Capt. F. W. Hutton (1873, or earlier), appears to be still unique. It is the largest of the group, with a wing measuring 6.8 inches.

The above is the only species actually recorded from Rapa, but J. V. Hall (Trans. New Zealand Inst., I, 1869, 128-134), who gave a general description of the island, added "there are a few fowls wild in the bush, some widgeon, and of course sea-gulls." A better knowledge of these birds is important!

Some birds observed by Cook at sea are enumerated below, as they bear latitudes and longitudes nearer Rapa than to any other land area.

Saw two Pintado Birds (Daption) Aug. 21, 1769, in $29^{\circ} 44'$ S., and $148^{\circ} 22'$ W.

Saw one "Albetross" and "some smaller Sea Birds" Aug. 22, 1769, in $31^{\circ} 3'$ S., $148^{\circ} 00'$ W.

Saw "several" Daption, Aug. 23, 1769, in $31^{\circ} 6'$ S., $147^{\circ} 29'$ W.

Saw "several Albetrosses, Pintado Birds, and Sheer Waters; some of the Albetrosses were small, such as we usually saw off Cape Horn",

on Aug. 25, 1769, in $32^{\circ} 26'$ S., $147^{\circ} 32'$ W.

Saw "several Albetrosses, Pintado Birds and Sheer Waters",

Aug. 27, 1769, in $33^{\circ} 34'$ S., $147^{\circ} 25'$ W.

Saw "some Pintado Birds and Sheer Waters and a Green birds (see) something smaller than a Dove, but it was not near enough to distinguish whether it was a Sea or Land bird; it was only seen by one Person, and he probably was Mistaken in the Colour." (Parkinson says one of Banks' servants "saw a bird of a fine green colour"). This was on Aug. 30, 1769, in $38^{\circ} 20'$ S., $147^{\circ} 6'$ W.

Saw "Some Albetrosses, Sheer Waters, and a great many Pintado Birds about the ship with some hundreds of Birds that were smaller than Pidgeons, their backs were grey, their Bellies white, and the ends of their Tails black, and have a blackish line along the upper parts of the wings from the Tip of one to the other. We saw birds very like those near Fulklands Islands....only they had not the black streak along the wings; they fly low like sheer waters or mother Carys birds..." Aug. 31, 1769, in $39^{\circ} 28'$ S., $147^{\circ} 0'$ W.

(These birds were seen almost daily up to Sept. 29.)

Parkinson, in his account of this period, says they saw "a vast number of birds, of different kinds", including "various sorts of Procellariæ."

Saw "a Bird which was all white, except the Tip of each Wing; it was nearly as big as an Albetross", on Sept. 6, 1769, in $37^{\circ} 49'$ S., $147^{\circ} 30'$ W. He says they were the same as those seen April 3, 1769, near the Tuamotu group.

(20) Rapa Island and vicinity.

Rapa belongs to France. Vessel from Tahiti visits it every few months. (Findlay).

Bass Ids. (4 small islets, 43-46 mi. e. by s. from Rapa, "all these
Maretiri. rocky islets are abrupt and without vegetation or any
low ground." The s. e. islet is 346 ft. high; the others
are 280, 195 and 135 ft. Greatest diameter of group is
about 2 mi.

Lappa [= Rapa]

Maretiri [= Bass Ids.]

Mitchell group (said to occur in $31^{\circ} 20' S.$, $129^{\circ} 30' W.$, but not
authenticated.

Neilson Rock (about 90 mi. w. by n. of Rapa, is said to be a reef, under
water. (Hydr. Pilot)

Oparo [= Rapa]

Rapa (15-20 mi. circ.; coast bold; 2100 ft. high; coast mostly inacces-

Lappa. sible, with deep caverns worn in the cliffs by the sea;

Oparo. mtns. on e. side of id. are either bare, or covered with

Rapa-iti. stunted trees; on w. side they are covered with rich vege-

Rapa-titi. tation, including tree ferns; by 1869 there were many wild
goats and rats. Inhab.; stone remains occur, resembling
some of those on Easter Id.

Rapa was a coaling station in the early 70's, when there
was a line of steamers running from N. Z. to Panama. It
has a harbor.

$27^{\circ} 36' S.$, $144^{\circ} 17' W.$

Rapaiti (islet of Rapa; high; rocky.

Rapa-iti is also applied to Rapa

Rapa-titi [= Rapa]

Tapui (conical islet of some height, in Ahurei Bay, Rapa.

Tarakoi (islet of Rapa

Tauna (islet of Rapa on n. side of entrance to Ahurei harbor; small;
(sandy; no vegetation.

Tauturau (islet of Rapa.

A FEW CLUES TO THE IDENTITY OF S. PACIFIC BIRDS.

Gallus. Jungle fowl occur wild on many islands, and are supposed to have developed a variety on Tahiti in which the comb is entire on the posterior end, not notched.

Treronidae. Fruit Pigeons.

Globicera is of large size, and adults have a fleshy knob at base of bill.

Serresius. (Described under birds of Marquesas group.)

Ptilinopus. Small fruit pigeons, which vary in species in almost every group of islands. Usually with more or less green on them, and with a cap of some shade of purple; some species have a band or two across the chest; a yellowish top to the tail is present in some.

Peristeridae. Pigeons, especially ground doves.

Gallicolumba. Strong-legged ground pigeons, running to browns, rufous, and similar shades, with sometimes glossy patches on sides of neck; head, neck, and breast frequently with much white or buffy, probably varying according to age. The Polynesian species are the rarest and least known. The birds are said to flush like partridges; live in dense undergrowth and are usually overlooked unless especially sought. Some of the Pacific species are probably extinct, especially on islands where wild cats and pigs occur.

Rallidae. Rails, Gallinules, Coots.

Porphyrio. Of gallinule type; has frontal shield, and more or less blue on underparts.

Hypotaenidia pacifica. Black, with white spots or bars; abdomen, throat, and eyebrow white; hind neck rusty; breast gray; bill and iris red. No specimens extant?

Porzana tahitiensis. Small; generally brownish black; first primary white; other primaries margined with white. No spec. extant?

Porzana atra. (Henderson Id.) Small; "entire plumage deep black, with a slight greyish gloss"; iris red; bill black; feet orange.

Diomedidae. Albatrosses.

Puffinidae. Shearwaters, thick-billed petrels (Pterodroma, formerly "AEstrelata"), etc.

Hydrobatidae. Small petrels.

Bulweria is one of the smaller Puffinidæ, with a longish, wedge-shaped tail; nasal tubes fleshy at ends; plumage uniform sooty brown.

B. macgillivrayi has the chin and wing-coverts of the same color as the body, and a stout bill. B. bulweri (which occurs in the N. Pacific, and may wander into waters south of the Equator) has a slenderer bill, and the greater wing-coverts and chin are paler than the rest of the plumage; there is also doubtless a difference in the fresh colors of soft parts.

Pealea is a genus of small petrels found in Samoa, but may occur elsewhere, such as in the mountains of Tahiti. It has flattened and wide claws, and the first primary is longer than the 3d. The general color above is sooty or brownish black, including neck and breast; upper tail-coverts white, each feather with a faint longitudinal dark streak;

feathers of throat white at base; belly and flanks white, with wedge-shaped stripes of dusky, producing a mottled appearance; tail feathers with white on inner webs for half their length; bill, legs and webs bluish black. This species is still very rare in collections; two individuals have been recorded in the last 80 years. Wing about $6\frac{1}{4}$ inches; tarsus about 1.4 inch.

Oceanodroma fuliginosa. Tail more or less forked; sooty slate above (no white on upper tail-coverts), and sooty grayish brown below. Length of wing 7.5 inches. Tahiti is the type locality, where the bird has not been found since Cook's time, though birds from other places (Japan and Laysan) are supposed to be the same; some authorities, however, think the latter represent a different species (O. tristrami), and the question can not be settled until birds from Tahiti are in hand.

Pelagodroma has broad flat claws, but the 1st primary is much shorter than the 3d.

Fregetta. Has the basal phalanx of middle toe much flattened, and equal to or longer than the remaining joints and claw. F. albigularis is sooty black; upper tail-coverts short and white; throat and abdomen white; broad band on breast sooty; wing 8 inches. F. melanogaster has the upper surface, breast, and middle of abdomen sooty black; flanks, upper tail-coverts and under wing-coverts white. Wing 7 inches.

Sternidae. Terns.

Gygis alba, subspecies. Small white terns with narrow black ring round eyes; bill black.

Gygis microrhyncha. Same as above in general color, but smaller; bill slenderer; tail shorter and more rounded; shafts of tail feathers white. In the preceding, the shafts are usually brownish.

The G. microrhyncha has been known only from Nukuhiva until a few years ago, when it was recorded (without comment) from Nawodo Island far away. Possibly the Nawodo record was an error; if not, the bird must occur in various intervening sections.

Anous stolidus. The Noddy is dark brown or blackish above and below, with the crown grayish to white. Wing 10-11 inches. It runs into various forms throughout its wide range.

Megalopterus melanogenys. The lesser Noddy is brown-black or sooty, with the cap grayish white; wing about 9 inches.

Procelsterna cerulea, subspecies. General color gray; tail graduated and feathers pointed. In a general way the tails of Anous, Megalopterus and the present genus are alike--graduated, not forked, though they vary in details. Gygis is also similar.

Onychoprion fuscatus. Front of forehead white; lores black; mantle black; wing 12 inches. Bill black.

Onychoprion lunatus. Front of forehead white; lores black; mantle dark smoke gray; wing 10.5 inches; bill black.

Thalasseus bergii rectirostris. Front of forehead white; lores white; rump dark gray like mantle; bill greenish yellow; nape feathers long.

Scolopacidae. Curlews, Snipes, Sandpipers.

Phaeopus tahitiensis. Bristle-thighed Curlew. The only curlew of this immediate region. Discovered 146 years ago, but information on its breeding range, nesting habits, eggs, and downy young are still wanting. It is supposed to be only a winter migrant in Polynesia.

Heteroscelus (formerly Heteractitis) incamus. Wandering Tattler. Uniform ashy gray above; lighter (to white) below, but ashy on sides of breast and flanks; summer plumage has much barring and various spots on the lower surface. Supposed to be only a winter visitor to Polynesia; discovered about the same time as the preceding, and not much more is known about its nesting details. Wing over 6 inches long.

Prosobonia leucoptera. "White-winged Sandpiper." Smaller than preceding, with the wing 4.45 inches; bill 0.9 inch. General color above blackish brown; lower back and rump ferruginous; middle tail feathers blackish, the rest rufous banded with black; wing coverts blackish, with a white spot near carpal bend of wing. Under surface of body ferruginous red; throat buffy white; crown blackish, hind neck browner, mixed with black; sides of face brown, with lores and ear-coverts more reddish; small white spot behind eye. This and the following are among the rarest of all birds to date. When it is said they are probably long since extinct, we are simply repeating a state-

ment common to several generations past. The birds may, in fact, still occur in suitable places, but differ in their habits from ordinary types of sandpipers or shore-birds. A supposed near relative, *Phegornis*, is said to inhabit marshy places in the Andes. If actually exterminated on Tahiti, it may yet be found on Maitea or some other island of the group. Forster found it along rivers, which would indicate it was not a seashore species. The natives called it "Teetee."

Prosobonia ellisi. Like the preceding, but had a rufous circle round the eye; two patches on wing (on the lesser coverts?); median and greater wing-coverts pale ferruginous like the rump. Only known from a drawing by Ellis, made from a bird of Moorea; Ellis gave the native name as "Tete." It is possible this supposed species is only a stage of plumage of the preceding.

Aechmorhynchus parvirostris and *cancellatus*. Wing about 4 inches; bill about .65 inch. Brownish above, with lighter edgings and spots; below whitish or buffy, barred with darker on breast, sides and undertail-coverts. A very rare bird in collections, though *parvirostris* may occur on numerous islands in the Tuamotu group. No specimen of *cancellatus* is known.

Grocethis alba. Sanderling. Recorded from Henderson, and supposed to have been seen on one of the Fanning islands. The only shore-bird known from this region that is largely white above and pure white, unbarred below. Wing about 4.7-4.9 inches. Very common elsewhere, and of value here only as records of occurrence.

Charadriidae. Plovers.

Pluvialis dominicus fulvus. Pacific Golden Plover. The only species recorded from this part of the Pacific; a winter migrant only, and of value only for records of occurrence and dates of appearance.

Ardeidae. Herons.

Demigretta sacra. Reef Heron. The ordinary heron of the Pacific; has a white and a dark phase of plumage, which occur and breed together, though a suspicion is entertained that a larger and a smaller subspecies occupy separate localities in various parts of the Polynesian region, but not enough material has been gathered from the different islands to prove it.

Butorides stagnatilis. Related to our Green Heron. The Tahiti bird ought to prove different from the true stagnatilis of Australia, when enough fresh material is available for comparison.

Anatidae. Ducks.

Anas superciliosa, subspecies. General color above and below brown, mottled; upper part of head and a band through eye to occiput brown-black; speculum glossy green; wing 10.7 inches, or less. This bird probably varies throughout its range, but material is not very abundant to work out the several forms; collectors apparently have contented themselves with making up a specimen or two at the spot where first found, and then reporting it as "present" on various additional islands visited. This remark is also true of many other species, resulting in scanty material, scattered through the various museums of

the world, making it almost impossible to bring a series of any species together for comparison.

Chaulelasmus couesi. Only known from immature birds; colored like the immature of the ordinary Gadwall, but is much smaller; wing about 8 inches. It is noteworthy that another small duck was later found on Laysan Id., which also has a wing of 8 inches, and possibly the two forms are more closely related than has been supposed; a suspicion that also should include the Hawaiian wyvilliana.

Phaethontidae. Tropic-birds.

Phaethon aethereus. Red-billed Tropic-bird. Back and scapulars barred with black; outer web of first primary black almost to tip.

Phaethon rubricaudus. Red-tailed Tropic-bird. Outer primaries with outer web white to base; middle tail feathers carmine, with black shafts.

Phaethon lepturus. A "yellow-billed" species; general color pure white; back uniform, not barred; outer primaries with most of the outer web black to about 1 inch of tip.

Sulidae. Boobies.

Sula piscator. Red-footed Booby.

Sula dactylatra (formerly cyanops). Blue-faced Booby.

Sula leucogastra plotus. The Pacific representative of the ordinary booby.

Fregatidae. Man-o'-war birds or Frigate birds.

Fregata "aquila" or subspecies. Bill 3.6-4.4 inches in male, and

4.3-5.2 inches in female.

Fregata ariel. Lesser Frigate bird. Bill 2.3-3.5 inches in male; 3.2-3.6 in female.

Loriidae. Lorys or Brush-tongued Parrots.

Coriphilus. Colors mostly blue; tail with feathers graduated, the middle ones being longer than outer ones. C. peruvianus is dark blue, with cheeks, throat and breast white. The young birds are all blue, and have been described as a different species. Specimens actually showing white feathers appearing on throat would be desirable and convincing evidence. C. smaragdinus is pale blue, with the cheeks and throat blue, dotted with white.

Vini. The middle tail feathers in this genus are longer than the outer ones, and colors are chiefly green and red. V. kuhli is green above, with long narrow blue feathers on the nape; lores, cheeks, throat and breast red; middle of abdomen purple. V. stepheni is green above, red beneath, with green on sides of chest; tail yellow, tinged with greenish, the basal part of the feathers mottled with black and red and dark green.

Phigys. Tail nearly square or even, and rather short. P. solitarius has feathers of hind neck long and light green; top of head, abdomen, flanks and tibia dark purple blue; back and wings green; rump, upper and lower tail-coverts light green; lores, throat, cheeks and breast red. Bill orange; feet and iris orange or red.

Psittacidae. Parrots with ordinary tongues.

Cyanoramphus. A genus of small paroquets, with the tails graduated or wedge-shaped; prevailing colors green or olive-green to olive-brown. C. erythronotus is olive-green; rump and a spot on ear-coverts brown red; bluish green below; tail above bluish gray. C. ulietanus is olive brown, with head darker; rump brown-red; olive-yellow below; wings and tail gray. C. cyanurus is green, lighter below; bluish on wings and tail; crown and ear-coverts crimson, as also a patch on each side of rump.

Cuculidae. Cuckoos. The old world members are mostly parasitic, laying their eggs in nests of other birds. A great deal of mystery appears to prevail over the egg-laying habits of the genus Urodynamis, the only one in this part of the Pacific. This bird was thought to spend the breeding season in New Zealand, and migrate north over most of Polynesia, then travel over countless miles of ocean just for the opportunity of laying a few more eggs in New Zealand. The New Zealand bird is now regarded as a resident, and the Polynesian form is believed to be a resident in its own region, but nothing is known of its "nesting" habits. It occurs on some islands which have no other land birds, and the question arises whether it deposits its eggs in nests of terns and permits the latter to raise the young cuckoos on fish food; or whether it builds its own nest in such islands; or whether it migrates to other islands which have suitable lands birds

vic

to serve as hosts. Any evidence on any of these points will be desirable; also any dates of birds seen and not obtained will be useful in showing whether the birds occur at all seasons. The Urodynamis is a large cuckoo, about 17 to 18 inches long, brown, striped and barred, with a wedge-shaped tail.

Tytonidae. Barn Owls.

Tyto alba lulu. The only owl in the vicinity; may differ in the several groups in Polynesia, but more material is needed for comparison.

Micropodidae. Swifts and Swiftlets.

Collocalia. The "edible-nest" swiftlets. Occur in various parts of Polynesia, in several forms or species, some of them difficult to identify even in the hand; in some islands there are two or more kinds. They appear to nest in colonies, and possibly differ in their nesting habits according to species, but this point has not been studied. The usual manner of nesting is in caverns, but some have been reported as nesting against cliffs or walls of rocks in the open. Skins taken under various conditions should be noted as "from cave" etc., as an aid in later study of the series.

Alcedinidae. Kingfishers.

Todiramphus is a genus of flat-billed or "Tody-billed" kingfishers. T. tutus has a white or buffy collar round hind neck. T. veneratus has no white collar round hind neck, and is green above and white below.

Todiramphus youngi Sharpe. (Type loc.: Moorea.)

Moorea: Young.

This was omitted from the notes on the Society Islands by an oversight. It has no white collar on hind neck; is brown above, with a brown band on foreneck.

Halcyon godeffroyi. Bright blue above; head entirely white, as is the neck, mantle and centre of back; below white, with buff on flanks; collar round hind neck blackish green?

Hirundinidae. Swallows.

Hypurolepis tahitica. A typical swallow, and the only one yet found in this vicinity.

Muscicapidae. Old world Flycatchers.

"Monarcha" dimidiata. Wing 3.2 inches. Male dark ashy gray above, with a hoary shade on crown; feathers of upper surface mostly with fine shaft lines of white; forehead and eyebrow hoary white; body below dull white; indistinct markings on wing-coverts. Female generally rusty cinnamon; tail creamy white, with darker band at tip; belly white.

Pomarea nigra. Male black all over, slightly glossy. Wing 3.7 in. Female differs in color (much duller and paler, sometimes whitish?).

→ Ploceidae. Weaver birds, introduced from Australia.

Lonchura castaneothorax. General color above cinnamon brown; lower rump and upper tail-coverts straw color; breast and belly white; chest, foreneck and sides of body cinnamon; black band across chest.

Wing 2.5 inches. This and the next species have sparrow-like bills, and are probably sparrow-like in habits.

Aegintha temporalis. Olive-yellowish above; rump and upper tail-coverts crimson; crown and nape slaty gray; lores, eyebrow and streak above ear-coverts crimson; below chiefly gray. Bill red; wing 2 in.

Sturnidae. Starlings.

Acridotheres tristis? The minah is said to be introduced in Tahiti; it is a generally dark colored bird about the size of the Amer. Robin; has some of the tail feathers tipped with white.

"Eulabetidae". Another group of Starlings.

Aplonis cinerascens. Gray-brown; paler and grayer below. Wing 4.2 to 4.8 inches.

"Aplonis ulietensis". A brownish black bird, about the size and general shape of the Amer. Robin. Some question whether it is a member of this family or belongs to the thrushes. If a thrush, it may have the habits of similar species in the New Hebrides, which skulk in the forest undergrowth, and are shy and difficult to find. This may explain its rarity and the belief that it has been long extinct.

Sylviidae. Old world Warblers.

Conopoderas (formerly called Tatare, from its alleged native name "O-tatare."). Generally shaped like and size of our Catbird, but brown, grayish, or of similar shades of color above, and whitish, yellowish or grayish below; varying on different islands. Should be obtained

wherever found, as there are doubtless many new forms still to be discovered. An effort should be made to find them on Tahiti and Moorea, where they occur, or did formerly, as there is a question concerning the identity of the birds from these two islands. The name caffra was based on the Tahiti bird, and that of longirostris on the bird of Moorea. As caffra is the oldest name, it has been adopted for the species, but now that it is known that these birds vary so greatly, it is a question if the birds from Tahiti and Moorea were actually the same. Any material to settle this point will be of great interest.

Family---?

Lanius gambieranus. This bird was 5.5 inches long; brown-olive above and on wings; yellow below; tibial plumes brown, with a yellow ring or edge to the lower feathers; wing-coverts varied with yellow and white; tail feathers tipped with yellow. The colors given for this bird make it "sound" like a Conopoderas, but Lesson described the bird as a Lanius, and as he had first instituted the genus Tatare (now Conopoderas) he ought to have noticed the resemblance, if it were a bird of this genus. However, if a Conopoderas having the above colors can be found on Manga-reva or "Gambier" Island, it may help considerably in clearing up the mystery. The ordinary Conopoderas of the Tuamotu group seems to be a much larger bird than the Lanius gambieranus.

23. SAMOAN, HAMOAN OR NAVIGATOR GROUP.

(Including Niti and Gente Hermosa.)

Niti and Gente Hermosa are British, and are included here for convenience.

(In the main islands, wild cattle and wild boars, some quite ferocious, are said to be common in the mountains.)

Aborima [= Apolima].

Albatross { islet at mouth of Saluafata harbor on Upolu, 9 mi. e. of
Apia. Has black rocky base; palm trees 70 ft. high. There
was a German naval sanatorium here.

Anuu [= Aunuu].

Apolima { extinct volcano, 2 1/2 mi. circ.; "547" or "472" ft. high;
Aborima. { wooded (cocoanuts?); good stream of water on the island.
Poreemo. {
Upolima. { Between Savaii and Upolu.

Aunuu { 1 mi. s. of e. end of Tutuila; 65 ft. high; cocoanuts at w.
Anuu. { end; inhab.

Bartlett { islet of Tutuila; off Massefau Bay.

Calinasse { old name of one of the islands.

Chatham [= Savaii].

Fanfone [= Fanfoué].

Fanfoué [= Ofu].

Famuatapu { rocky islet on e. coast of Upolu, 170 ft. high.

Fisherman's Isle { off e. end of Upolu; small, rather high, and
Ile de Pêcheurs. { covered with wood.

Foisina { small islet on w. side of Ofu.

Gente Hermosa	{	7-8 mi. in circ.; close lagoon; 15-25 ft. high;
Handsome People.		was wooded in Wilkes' time (Peale says outer rim
Quiros.		of land was covered with large trees), but by 1900,
Swain.		800 acres or more had been planted in cocoanuts; no
La Peregrina.		anchorage, but passages had been blasted through
		reef on w. side of island; roads throughout island;
		inhab.; "taken up" by an American, Eli Jennings,
		about 25 years before 1886. He lived there with
		his Samoan wife and died about 10"years ago" (Moss,
		1889). His sons continued the copra work. "Pigeons
		were observed on it" when Wilkes visited there, or
		before (Findlay).

Goat { islet off Pagopago harbor, Tutuila.

Handsome People [= Gente Hermosa].

Kordiukoff [= Rose].

La Peregrina [= Gente Hermosa].

Leoné (of La Pérouse) [= Olosenga].

Manomo [= Manono].

Manono	{	3 mi. circ.; 400 ft. high; on w. end of reef with Upolu;
Manomo. Platte.		well cultivated and thickly populated.

Manua [= Tau].

Manua group { consists of Ofu, Olosenga, and Tau, all high islands.

Mamua-tele [= Tau].

Maouna [= Tutuila].

Middleton [= Rose].

Namera (of Brigham's map, appears to be Namua of his list).

Namua { small islet on e. side of Upolu; 120 ft. high.
Namera }

Nieue [= Niue].

Nine' [= Niue].

Niue { coral id., upheaved; "230" or "300" ft. high; about 30 mi.
Nieue. circ.; inhab.; vegetation abundant and varied (trees, bushes,
Nine. ferns, etc.); some parts (hills, etc.) well wooded. Enormous
Savage. caverns occur, some of them extending well inshore; natives
formerly buried their dead in them. Flies are a pest on this
id.

Noolele [= Nuutele?].

Nulopa { islet near Manono.

Nunsafe [= Satalo].

Nuulua { islet on s. e. side of Puolu; 120 ft. high.

Nuutele { islet on s. e. side of Upolu; 200 ft. high; low sandy beach on
Noolele? n. side.

Oahtooak [= Upolu].

Oahtooa [= Upolu].

Oatooah [= Upolu].

Ofoo [= Ofu].

Ofu { 2 1/2 mi. long by 1 mi. wide; 1020 ft. high; few inhab.
 Panfoué. { In Manua group. Foisina is an islet off w. side.
 Ofou. }

Ohatoca [= Upolu].

Ojalava [= Upolu].

Ojatava [= Upolu].

Olajava [= Upolu].

Oloosinga (of Wilkes) [= Olosenga].

Olosenga { 6 sq. mi. in size; triangular in form; 1500 ft. high,
 Leone. { and very rugged; inhab. In Manua group. Belongs to U. S.
 Oloosinga.
 Olosinga.
 Orisega.
 Orosenga. }

Olosinga [= Olosenga].

Omanocau [= Tau].

Onero (old name of one of the islands).

Opolu [= Upolu].

Opoloo [= Upolu].

Opoulou [= Upolu].

Opoun [= Tau].

Orisega [= Olosenga].

Orosenga [= Olosenga].

Ossamo (old name of one of the islands).

Oteewhy [= Savaii].

Oyclava [= Upolu].

Platte [= Manono].

Pola [= Savaii].

Poreemo [= Apolima].

Quiros [= Gente Hermosa].

Rosa [= Rose].

Rose	{	coral islet 3 mi. diam.; lagoon; 2 islets on e. side, one
Kordiukoff.		of them covered with trees (more or less); 33 ft. high;
Middleton.		
Rosa.		the other is a sand bank; birds are the only inhabitants.
		About 75 mi. e. of Mamma group.

Sand { islet close of Rose. (Perhaps the sand bank mentioned under Rose.)

Satalo	{	low, wooded islet on s. coast of Upolu; with sandy beaches
Nunsafe.		at s. and s. w. sides.

Savage [= Niue].

Savaii	{	largest of group, 40 x 20 mi.; shores low, but peak in
Chatham.		centre is 5400 ft. high, and "constantly" in the clouds;
Oteewhy.		
Pola.		inhab. Whitmee (1874) said an extinct crater is "full of
Savay.		large trees" in which Pteropus roost. The mountain sides
Savoi.		
Sevai.		are wooded. The id. was German, but now British (under
Shavie.		New Zealand). Apolima is an islet.

Savay [= Savaii].

Savoi [= Savaii].

Sevai [= Savaii].

Shavie [= Savaii].

Shika (old name of one of the islands).

Platte [= Lagoon].
Tola [= Bay].
Poros [= Island].
Grove [= Wood].
Hose [= Water].
Hose [= Water].
of them covered with trees (more or less); 23 ft. high.
the other is a sand bank; birds are the only inhabitants.
About 25 mi. e. of Lagoon Group.
Sand [= Sand]. (Perhaps the sand bank mentioned under 23 ft. high.)
Grove [= Wood]. low, wooded island on e. coast of Upolu; with sandy beach.
Hose [= Water]. of e. and s. w. sides.
Hose [= Water].
Hose [= Water]. largest of group, 40 x 20 mi.; shores low, but peak in
centre is 2400 ft. high, and "conspicuous" in the clouds.
Hose [= Water]. (Hose [= Water]) said an extinct water is "still"
large trees" in which Pteropus roost. The mountain is
and wooded. The id. was German, but now British (under
New Zealand). Again is an island.
Hose [= Water].
Hose [= Water].
Hose [= Water].
Hose [= Water].
Hose [= Water].
Hose [= Water].

Swain [= Gente Hermosa].

<p>Tau</p> <p>Mama.</p> <p>Mama-tele.</p> <p>Omanocau.</p> <p>Opoun.</p>	{	<p>largest of Mamia group; 14 mi. circ.; dome-shaped; 2500</p> <p>ft. high; well watered, with rich vegetation, including</p> <p>many cocoanut groves on n. w. side. Belongs to U. S.</p>
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Tootocellah [= Tutuila].

Tootocilah [= Tutuila].

Tootocillah [= Tutuila].

Tou-tou-Ila [= Tutuila].

<p>Tutuila</p> <p>Maouna.</p> <p>Tootocellah.</p> <p>Tootocilah.</p> <p>Tootocillah.</p> <p>Tou-tou-Ila.</p> <p>Tutyella.</p>	{	<p>17 x 5 mi.; Mataafo peak is "2133" or "2359" ft. high;</p> <p>volcanic; some low country on s. w. side; inhab. Belongs</p> <p>to U. S. The government of the U. S. keeps a naval ves-</p> <p>sel here, and a naval officer acts as governor. Islets</p> <p>are Aumuu, Bartlett, Goat, Vatia. The island of Tutuila</p> <p>is wooded, more or less. The harbor of Pago Pago (or</p> <p>Pangopango) is here.</p>
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Tutyella [= Tutuila].

Upolima [= Apolima].

<p>Upolu</p> <p>Oahtooak.</p> <p>Oahtoocha.</p> <p>Oatooah.</p> <p>Chatooa.</p> <p>Ojalava.</p> <p>Ojatava.</p> <p>Olajava.</p> <p>Opoloo.</p> <p>Opolu.</p> <p>Opoulou.</p> <p>Oyolava.</p>	{	<p>39 1/2 x 8 mi.; 3200 ft. high; wooded; Apia is principal port</p> <p>of the group. Subject to hurricanes. Was German, but now</p> <p>British (under New Zealand). Islets are: Albatross, Fanaa-</p> <p>tapu, Manono, Namua, Nuulua, Nuutele, and Satalo.</p>
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Vatia { small; high; rocky; off n. coast of Tutuila.

23. Samoan group. Collectors, etc.

Georg Forster (June 21, 1774), on Cook's Voyage, was at Niue, and observed "some curlews, snipes, and herons."

Kotzebue touched at Upolu (at least) about 1824-25.

Peale and Pickering (U. S. Exploring Exped.) visited the islands twice (between 1838-41).

Rev. John B. Stair (in 1862, of Broadmeadows, Victoria), was a resident of the Samoan Islands about 1847, and collected birds there.

Rev. S. J. Whitmee collected in Samoa (1872-75 at least), and Tristram and the Brit. Museum got some of his material. He added something to the history of the rare *Pareudiastes pacificus*.

Rev. Geo. Brown obtained some birds, from Savaii (at least).

Rev. Thos. Powell, was living on Upolu (while a missionary), and probably collected a few birds there, as well as on Tau and Tutuila (including the type of *Pinarolestes powelli*).

E. L. Layard, about 1875, visited some of the islands (but did not touch at Tutuila); he gave a general account of the birds seen or obtained, in P. Z. S., 1876, 490-506.

Lieut. J. Murray, of H. M. S. 'Daphne', visited the Samoan Islands in 1849-50, "where he procured for us some very interesting species" (Jardine, Contrib. Orn., 1851, p. 113).

Julius L. Brenchley obtained some birds (on Tutuila, at least); his death occurred just before the publication of his work 'Jottings' on the cruise of the Curacoa, in 1873.

Rev. Mr. Lawes, collected nat. hist. objects on Niti, in the early '70's
(reported upon by Günther in P. Z. S., 1874, 295-297).

The Earl of Ranfurly obtained some birds on Niti for Brit. Museum in
1902, probably in spirits or formalin; 8 spp. in all (see Ogilvie-
Grant, Ibis, 1905, 601-602).

Dr. Edouard Gräffe collected some birds on Savaii and Upolu.

Johann Kubary collected birds on Savaii; he discovered Pareudiastes
about 1869-70.

Dr. Hüsker, of the 'Gazelle' exped., got a few species at Samoa about
1875-76.

-- -- Krause collected some birds in Samoa.

Dr. T. Canisius, ex U. S. Consul, sent 10 skins to U. S. N. M. in 1885.

G. Goward, ex U. S. Consul, sent 2 Didunculus to U. S. N. M.

Mason Mitchell, U. S. Consul, sent a few birds to U. S. N. M., and to
other institutions, about 1909-15. He wrote a book on Birds of
Samoa, and contributed a few items to popular periodicals at this
time, but his collecting was indifferent, and mostly (if not entirely
upon Upolu.

Dr. C. H. White, U. S. N., presented 9 skins to U. S. N. M., from Samoa.

Sir Fred. Walpole sent (to England) at least a Didunculus from Upolu,
back in the 40's.

Mrs. Cusack-Smith collected or presented a few birds to Brit. Mus., from
Tau.

Thilenius, an early visitor, is credited with a bird or more from Upolu.

-- -- Cunningham is credited with a bird or more from Upolu.

Theodor Kleinschmidt, a collector of Fiji birds (killed in New Britain, July, 1881), got some birds at Upolu.

Chas. H. Townsend, on the Agassiz Pacific Exped., 1899-1900, gathered a few birds at Apia, Upolu, Dec. 26, 1899. He did a little collecting at Niue, when the 'Albatross' stopped there "for a few hours" on Nov. 25, 1899, but thinks there may be "other land birds, as my brief search for birds was necessarily confined to the vicinity of Alofi village."

Lieut. Richard C. Reed, U. S. N., collected some birds on Tutuila, about 1920-21, for the National Museum.

Voyage of 'Astrolabe' and 'Zélée' (under Dumont d'Urville); Hombron & Jacquinot were the naturalists. They collected at Apia, Upolu, in Sept., 1838.

Unfortunately, many of the birds from the Samoan group have been labelled simply from "Samoa", without reference to the individual islands; hence it is difficult to give the exact habitats for many of them.

In Peale's time, the natives of Samoa had developed a fondness for cats, which they secured from passing ships. Many cats took to the woods, and became wild, preying on the Dodo Pigeon and other ground

birds.

Peale stopped at Gente Hermosa on Feb. 3, 1841, and says "Scarcely any marine birds were seen, which is very singular and unaccountable unless they have been driven away by the great number of enormous land crabs, which are known to devour the eggs and young: these crabs are larger here than any we have seen elsewhere--and the birds are fewer than they are even where inhabited by man." He mentions no land birds at all. Wilkes (IV, p. 18) says pigeons were observed on this island.

The single specimen of *Pealea lineata* obtained by Peale on Upolu (but of which Beck got a "boatload" somewhere in the Pacific), was secured by a native, who said they breed high in the mountains, in holes.

Whitmee says (P. Z. S., 1873, 153) the former habit of snaring pigeons (in Samoa) was going out of favor, "in consequence of the ease with which the birds may be shot." Cheap firearms were evidently being introduced among the natives at that time, though these were later taken away from them by the Germans, when they took over Savaii and Upolu. Mason Mitchell (Birds of Samoa, 1909) says pigeons are increasing since the natives have had their guns taken from them.

23. Birds of Samoan group.

(Birds of Niue Island are listed beyond.)

Phasianidae.

Gallus gallus.

(Megapodidae.

Megapodius stairi Gray, based on an egg, was originally recorded from "Samoa" but was later found to occur on the island of Niuafoou, in the Tonga group. No megapode is now known to be native to the Samoan group.)

(Turnicidae?

Mason Mitchell includes a "Turnicidae taigur" among the birds of Samoa, but gives no information about it. No bird of this family is native of Samoa, but a species of Turnix may have been introduced.)

Treronidae.

Ptilinopus perousei Peale. (Type locality, Upolu).

Samoa Ids. Whitmee ("not uncommon").

Savaii: Whitmee.

Tutuila: R. C. Reed.

Upolu: Peale; Gräffe; Whitmee; Layard (saw about 30 pair in one tree back in the forest); Mitchell.

Ptilinopus fasciatus Peale. (Type locality, "Samoa" Ids.)

----- Layard (found it abundant); C. H. White.

Throughout the group: Peale; Whitmee ("very common all over the islands"), etc.

Tutuila: Peale; R. C. Reed.

Upolu: Peale ("not uncommon"); Gräffe; Nicoll (not uncommon at 1000 ft.); Mitchell.

(In earlier days there was some difference of opinion about this species; Whitmee thought it the female of *perousei*, but Layard believed it different.)

Globicera pacifica (Gmelin). (Type locality, Friendly Islands.)

Samoa Ids.: Peale; Whitmee ("exceedingly abundant in all the islands"); Layard (very abundant).

Apolima: Whitmee.

Manono: Whitmee.

Savaii: Pickering (MS.); Kibary.

Tutuila: Pickering (MS.); Whitmee; R. C. Reed.

Upolu: Peale (woods "abounded with them"); Pickering (MS.);
Gräffe; Whitmee.

Columbidae.

Janthoenas castaneiceps (Peale). (Type locality, Upolu.)

-----Layard (not common).

Apolima: Whitmee (saw it).

Manono: Whitmee (saw it).

Savaii: Whitmee.

Upolu: Peale; Gräffe; Whitmee; Mitchell.

Peristeridae.

Gallicolumba stairi (Gray). (Type locality, said to be Samoa.)

Samoa Ids.: Whitmee (3 spns. in Tristram colln.); Layard
(rare, got only 1 spn.).

Upolu: Gräffe; Mitchell.

Whitmee says "widely distributed" but not frequently met with.

Finsch calls the species samoensis, distinguishing it from the
Fiji and Tongan species, and Salvadori follows him, thinking the
type of *stairi* is more like the Fiji birds.

Didunculidae.

Didunculus strigirostris (Jardine). (Type locality not known;
probably Upolu.)

Samoa Ids.: Whitmee; Layard (did not see it himself, but had
one brought to him; Brenchley.

Savaii: Bennett (rec'd it in Sydney, in 1843, July); Gräffe;
Kibary, etc.

Tutuila: (this id. is cited by Salvadori, in Brit. Mus. Catalogue).

Upolu: Peale; Walpole; Bennett (rec'd one in Sydney, in June,
1843); Gräffe; Mitchell, etc.

Jardine described the species in 1845, from an unknown locality;

G. Bennett records a bird from Upolu, that reached
Sydney in June, 1843, and another that was received July
24, 1843, from Savaii. One of these was preserved in
spirits and the other was sent alive to the Zool. Soc.
London. Bennett (P. Z. S., 1864, 141) says "I was in-
formed that these birds are nearly extinct, from having

been formerly eaten by the natives in great numbers, and of late years from being destroyed by wild cats; and it is said that most of the Ground-Pigeons are following the fate of the *Didunculus* from the same causes." Peale says formerly common, but being killed off rapidly by cats run wild. Nicoll did not see it (1903), but heard it was getting rare, and only found in the mountains.

Rallidae.

Porphyrio melanonotus samoensis Peale. (Type locality Upolu.)

All the islands: Whitmee ("common all over the islands.")

-----Layard (very common here).

Savaii: Gräffe; Kubary.

Upolu: Peale ("abundant in all the fresh-water ponds" and in grassy meadows); Gräffe; Mitchell.

Pareudiastes pacificus Hartlaub and Finsch. (Type locality, Savaii.)

Type in the museum at Hamburg.

----- Whitmee (female, 1872, and a skin in 1873, in Tristram colln.).

Savaii: Kubary (1 skin; 1 alcoholic).

Upolu. Said by Whitmee to be more common on Savaii than on Upolu, but the known specimens seem to have come from the former island.

The native name is "Puna'e", pronounced Punahe; Whitmee gives an account of it in the P. Z. S., for 1874, pp. 184-186. He says it lives in the mountains some distance inland, and in burrows; but he got his information from natives, few of whom knew the bird at first hand. Information came mostly from old natives who knew the Puna'a when it was plentiful. Its eyes are "uncommonly large", according to Hartlaub and Finsch, who studied Kubary's specimens, indicating that it may be nocturnal. The bill is said to be reddish orange; frontal shield yellow; legs and feet light red; irides brown-red.

Among the known birds of Samoa, this is the rarest; no specimens in America.

Eulabeornis philippensis goodsoni Mathews. (Type locality, "Samoa.")

----- Peale; Whitmee ("very common," especially near the coast); Layard (very abundant).

Savaii: Kubary.

Tutuila: R. C. Reed.

Upolu: Peale; Gräffe; Mitchell.

been formerly said of the natives in these islands, and of later years was being destroyed by wild cats; and it is said that many of the ground-squirrels are following the fate of the birds; but being killed and eaten by cats formerly common, but being killed and eaten by cats now wild. Nicotiana did not see it (1933), but heard it was getting rare, and only found in the mountains.

Malina

Geography: Malina is a small island. (Type locality: Malina.)

All the islands: Malina ("common all over the islands.")

--- Jay (very common here).

Malina: Malina; Malina.

Malina: Malina ("common in all the islands") and in

Malina: Malina; Malina.

Geography: Malina is a small island. (Type locality: Malina.)

Type in the mountains at Malina.

--- Malina: Malina, 1933, and a bird in 1933, in Malina.

Malina.

Malina: Malina; Malina; Malina.

Malina: Malina to be more common on Malina than on

Malina, but the known specimens seem to have come from

the former island.

The native name is "Malina", pronounced Malina; Malina gives

Malina of 1933 in the N. E. of 1933, pp. 193-194. The

island is the mountainous island, and so Malina

but the name Malina is from Malina, the name of the

island at Malina. Information seems to be from old natives

who know the Malina's name is was Malina. It was the

name of Malina, according to Malina and Malina, who studied

Malina's specimens, indicating that it was Malina. The

bird is said to be Malina orange; Malina Malina; Malina

and the bird is Malina; Malina; Malina.

Among the known birds of Malina, this is the only one

seen in Malina.

Malina: Malina; Malina; Malina. (Type locality: Malina.)

--- Malina: Malina ("very common", especially near the

Malina (very common).

Malina: Malina.

Malina: Malina; Malina.

Malina: Malina; Malina.

Poliolimnas cinereus tannensis (Forster). So recognized by Ingram.

----- Whitmee (not rare, but hides closely in swamps, etc.; he thinks it occurs on all the islands).

Upolu: Gräffe.

Porzana tabuensis (Gmelin).

----- Whitmee; Gräffe, etc.

Upolu: Gräffe.

Puffinidae.

Apparently no *AEstrelata* (*Pterodroma*) recorded from the group.

?*Halobaena coerulea*.

Off Apolima: Layard (saw this, or "what serves for it in these seas.")

Puffinus "obscurus."

Tau: Powell (cf. Salvin, *Ibis*, 1888, 357); Mrs. Cusack-Smith (in *Brit. Mus.*).

Puffinus carneipes?

"Near Samoa": (Ramsay, ex Whitmee colln.).

Ramsay records this Whitmee bird as "*Puffinus* (*Nectris*) *carneipes*?" and notes that the nostrils and culmen are blackish.

Puffinus "assimilis".

----- Layard.

Puffinus temuirostris (Temminck).

Recorded by Salvin (*Brit. Mus. Cat.*, xxv, p. 389), but it may prove to be one of the preceding.

Hydrobatidae.

Fregetta moestissima Salvin. (Type locality, Samoa, especially Tau.)

All the islands: Powell.

Pealea lineata (Peale). (Type locality, Upolu.)

Off Apolima: Layard (saw what he thought was this species).
Upolu: Peale (1 specimen).

Peale's specimen was obtained by a native, who said "they breed in holes, very high up in the mountains." Peale says "This bird was frequently seen within the torrid zone of the Pacific Ocean."

Sternidae. Terns.

Large numbers of terns of three species (of which *O. fuscatus* was one) were breeding on Rose Island, on Oct. 7, (Pickering, M. S.).

Gygis alba -----

----- Gray; Whitmee; Gräffe; Krause.

Tutuila: Nicoll (fairly common at 1000 ft., flying among coconut trees).

Upolu: Gräffe.

Megalopterus leucocapillus.

----- Layard.

Anous stolidus -----

Samoa: Stair; Whitmee; Krause (in Brit. Mus.).

Tutuila: Nicoll (fairly common at 1000 ft., flying among coconut trees); R. C. Reed.

Procelsterna cerulea -----

Tutuila: Powell.

Sterna "melanauchen".

----- Layard.

Onychoprion fuscatus.

Samoa Ids.: Whitmee.

----- Gräffe.

Rose: Peale.

Upolu: Gräffe.

Thalasseus bergii -----

----- Layard (says he recognized this species).

Scolopacidae.

Numenius, species? Gente Hermosa: Whitmee (2 spns., cf. P. Z. S., 1874, 183). Slater (P. Z. S., 1874, 323) says these appear to be tahitiensis, "but cannot be certainly determined while alive." These specimens do not seem to have reached the British Museum.

Numenius tahitiensis (Gmelin).

Samoa (recorded by Hemminger, in 1912).

Numenius variegatus (Scopoli).

Samoa (recorded by Hemminger, in 1912).

"Numenius minutus", or "Whimbrel."

Mason Mitchell says one was shot in "Samoa" in 1902, but he does not give the island, nor the authority for this identification.

Limosa lapponica baueri Naumann.

----- Layard (generally distributed along sea coast).

Rose: Peale.

Upolu: Gräffe, etc.; Mitchell.

Rose Id. is the type locality of Limosa foxii Peale, a synonym of this species.

Heteroscelus incanus (Gmelin).

----- Peale; Whitmee; Layard (generally distributed along sea-coast); etc.

Savaii: Brown; Gräffe; Kubary.

Tutuila: Brenchley; R. C. Reed.

Upolu: Peale; Gräffe (Sept.); Nicoll (several seen along beach, April 26).

Pisobia maculata (Vieillot). Pectoral Sandpiper.

"Samoa". Reichenow records this North American species (no island or collector or date mentioned) in Journ. für Orn., 1919, 333.

Charadriidae.

Pluvialis donnicus fulvus (Gmelin).

----- Peale; Whitmee; Hüsker; Layard (very common and tame).
Upolu: Peale; Gräffe; Nicoll (abundant along beach, April 26).

Aphrizidae.

Arenaria interpres oahuensis (Bloxam).

Upolu: Gräffe.
Layard did not see it in Samoa.

Ardeidae.

Demigretta sacra (Gmelin).

----- Peale; Stair; Whitmee; Layard (generally distributed, but not common); etc.
Upolu: Peale; Gräffe; Nicoll (very abundant).

"*Nycticorax griseus*."

Mason Mitchell records this from Tau only.

Anatidae.

Mason Mitchell includes Blue-winged and Green-winged Teal (Q. "discolor" and Q. "carolinesis") from Samoa, but without any definite records. In view of recent records of North American ducks from the Marshalls and elsewhere in the Pacific, it is likely some species may reach Samoa.

Anas superciliosa pelewensis Hartlaub and Finsch.

----- Peale; Stair; Whitmee; Layard ("rare and local, being only found on the lakes in the mountains--old extinct craters, in fact."); Canisius.
Upolu: Peale; Gräffe.
Peale says specimens "obtained as Upolu,being one-fifth less in size, but alike in plumage with others obtained in Australia."

Phaethontidae.

Phaethon lepturus Daudin.

----- Gräffe; Stair; Whitmee; Layard (nests in holes in Samoa); Canisius.
Tutuila: Nicoll (fairly common at 1000 ft., flying among cocoa-nut trees).
Upolu: Brit. Mus.; Gräffe.

Phaethon aethereus Linnaeus.

----- Gräffe; Whitmee; Layard.

Upolu: Peale; Gräffe.

Phaethon rubricaudus Boddaert.

----- Peale; Layard.

Rose: Peale.

Upolu: Peale.

Sulidae.

Pickering (MS.) says large numbers were breeding on Rose Id., Oct. 7; possibly three species.

Sula piscator (Linnaeus).

----- Recorded by Ogilvie-Grant.

Sula leucogastra plotus (Forster).

----- Gräffe; Layard (saw gannets in Samoan seas, but did not identify, though probably this species).

Upolu: Gräffe.

Nicoll saw it between Tutuila and Upolu.

Fregatidae.

Fregata "aquila".

----- Layard (common in stormy weather).

Rose: Pickering (MS.) large numbers breeding Oct. 7.

Fregata "minor".

"Samoa": Whitmee (recorded by Tristram).

Psittaci.

Charmosyna samoensis Hartlaub.

This is a problematical species from "Olajava" (Upolu), based on the description of Kotzebue, about 1824-25. No later records. Said to be about the size of a sparrow, red and green; tail red, and four times the length of the body.

Loriidae.

Vini australis (Gmelin). (Type locality, Samoan Islands.)

----- Whitmee (very abundant on all the islands during a part of the year."); Dr. Hüsker ('Gazelle' exped.).

Savaii: Kubary; Gräffe.

Upolu: Peale; Gräffe; Layard ("abundant"); Townsend.

Whitmee says (Ibis, 1875,) they appear to migrate from the western to the eastern islands at one season; and that the natives believe the species does not breed in Samoa.

Cuculidae.

Urodynamis taitiensis taitiensis (Sparrman).

----- Whitmee (less abundant than on some other islands of the South Seas; in fact, he had not found it up to 1875); Canisius.

Upolu: Peale; Graffe; Kubary, Layard (saw one in December, and was informed it was not uncommon); Mitchell.

Tytonidae.

Tyto alba lulu (Peale). (Type locality, Upolu and other ids. of Samoa.)

----- Various ids.: Peale; Whitmee, etc.

----- Canisius.

Savaii: Gräffe, Kubary.

Upolu: Peale, Gräffe. Layard says common "throughout" the group, but he appears to have visited few of the islands. Whitmee also says "common to all the islands."

Micropodidae.

Collocalia francica spodiopygia (Peale). (Type locality, Upolu.)

----- Whitmee ("found all over the islands", in certain localities; breeds in Nov.); Layard.

Savaii: Kubary.

Tutuila: Peale.

Upolu: Peale (found in cave on s. side of id.; breeding in Nov.); Thilenius; Gräffe; Nicoll (very common).

Layard says "one of the commonest birds" in the islands.

Alcedinidae.

Todiramphus recurvirostris Lafresnaye. (Type loc., ids. of S. seas.)

----- Whitmee; Hüsker; Canisius; C. H. White.

Savaii: Whitmee (very common); Kubary.

Upolu: Peale; Cunningham; Whitmee ("very common"); Layard ("tolerably common"); Gräffe; Kubary; Townsend; Nicoll (common.).

Dacelo minima Peale, is a synonym of this species.

Tod. veneratus (Gmelin) was said to have come from Apia (Upolu), but it is not known to occur in the group.

Sauropatis pealei (Finsch & Hartlaub). (Type loc., Tutuila.)

Tutuila: Nicoll (several seen, and 1 shot at 300 ft.; in woods); R. C. Reed.

Upolu: Peale.

Layard says *pealei* "is confined to the island of Tutuila," which he did not visit.

Sauropatis tutuilae (Sharpe). (Type loc., Tutuila.)

Tutuila: Peale; Whitmee (found on "Tutuila only" and is a very noisy bird); R. C. Reed.

Dacelo coronata Peale may be a synonym of this species, but there is something fishy in the nomenclature and relationships of the two forms. Mated pairs should be shot and so labelled.

Muscicapidae.

Petroica pusilla Peale. (Type loc., Samoa, particularly Upolu.)

All the ids.: Whitmee ("very common in all parts of the islands" both in mountains and lowlands).

Various islands: Peale; Layard (not very uncommon).

Upolu: Peale; Gräffe; Nicoll (saw and got only 2, in the hills).

Rhipidura nebulosa Peale. (Type loc., Upolu.)

----- Whitmee ("very frequently met with in the bush"); Layard (not rare in the forest).

Savaii: Kubary.

Upolu: Peale; Gräffe, etc.; Nicoll (a few at Apia; more common at 1000 ft.).

Myiagra albiventris (Peale). (Type loc., Samoan Ids.)

----- Peale ("not uncommon"); Whitmee ("only occasionally seen in the bush"); Layard (not common); etc.

Upolu: Peale; Gräffe; Nicoll (1 specimen at 1000 ft.).

Myiagra vanikorensis (Quoy & Gaimard).

Upolu: Gräffe.

(*Monarcha dimidiata* from "Samoa Islands (J. Gould) 1850": two skins are thus recorded in Strickland's collection--see Salvin, Catal. Strickl. Colln., 1882, p. 136. Probably not from Samoa, as the species is only known from Rarotonga.)

Campephagidae.

Lalage sharpei Rothschild. (Type loc., Apia, Upolu.)

----- Layard ("very common"); Whitmee ("very common about the villages--I think, the most common bird we have.").

Upolu: Peale; Gräffe; Nicoll (common in town of Apia); C. M. Woodford (collected the type).

This species seems to replace *L. pacifica* in the Samoan Ids.

Turdidae.

(*Saxicola luctuosa* S. Müller, recorded from "Samoa" by Gray, is from Samoa Id., Malay Arch. (see Wigglesworth, Aves Polynes., p. 24.)

Planesticus samoensis (Tristram). (Type loc., "Samoa".)

----- Kubary; Whitmee ("common in the bush"); Layard (common).

Upolu: Peale (found in the interior); Gräffe, etc.

Sylviidae.

Layard said he could not find any *Conopoderas*, nor any one who knew of it. If ever present, he says "it may have become extinct." Peale (1848) mentions the Samoan Ids. as one of the localities where he met with it, so it doubtless did occur at the time of his visit (about 1839-41). Finsch gives Upolu as the island on which Peale saw it, but there appear to be no specimens extant.

Prionopidae.

Pinarolestes powelli Salvin. (Type loc., Tutuila.)

Tutuila: Powell.

Upolu: Kleinschmidt.

Laniidae.

Pachycephala flavifrons (Peale). (Type loc., Upolu.)

----- Whitmee ("common"); Layard (not uncommon).

Upolu: Peale ("quite a common bird"); Gräffe; Brown; Layard; Nicoll (fairly common at 600 ft.).

Peale described this species under three names (flavifrons, ictroides, and albifrons), thinking the several plumages represented as many species.

Meliphagidae.

Myzomela nigriventris Peale. (Type loc., Samoan Ids.)

----- Hüsker; Canisius; C. H. White.

All the islands: Peale; Whitmee (common near the coast on all the islands).

Tutuila: Nicoll (fairly common); R. C. Reed.

Upolu: Peale; Graffe; Layard ("not at all plentiful"); Townsend; Nicoll (fairly common; always high up in cocoanuts).

Meliphaga carunculata (Gmelin). (Type loc., Tongatabu.)

----- Whitmee (one of the most common birds; very lively and quarrels with other species); Canisius; C. H. White.

Tutuila: Peale; Brit. Mus.; Nicoll (common); R. C. Reed.

Upolu: Peale; Graffe; Layard, etc.; Townsend; Nicoll (most abundant bird).

"*Leptornis*" *samoensis* (Hombron & Jacquinot). (Type loc., Samoa, and the archipelago of the same name.)

----- Rev. T. Heath (1846); C. H. White.

All the islands: Peale; Whitmee ("found throughout the islands, but rarely seen near the coast").

Tutuila: Peale.

Upolu: Peale; Graffe; Layard (found in small flocks); Hombron & Jacquinot?

Peale says "they were most plentiful" on Tutuila and Upolu.

It would be well to get a couple of alcoholics and skeletons, for later comparison with those of the species of the Fijis and of New Caledonia. The three species belong to two genera at least, and each may finally be put in a genus by itself. Notes on habits and nesting of each species will be of interest. *Leptornis* is not the present generic name of the Samoan species, nor is *Leptomyza*, but probably *Amoromyza* will replace them.

Floceidae.

Erythura cyaneovirens (Peale). (Type loc., Upolu.)

----- Layard (not common); Whitmee ("not uncommon" but "seldom

to be seen near the coast" except in July and August, when its food trees are in bloom).

Savaii: Whitmee (saw it once in the mountains); Kubary.

Upolu: Peale ("very rare," probably because their haunts are "quite limited in extent"); Gräffe; Whitmee, etc.

Erythura (or *Erythrura*, as usually spelt) is a plastic genus, and is likely to differ on each island. Probably not enough specimens have been gathered together thus far to make a study of variation among the birds of the Samoan group, and it is desirable to get a series from each island where it occurs. The chances are that the birds of Upolu and Savaii (and Tutuila, if it occurs there) have thrived on their respective islands for countless years without any intermingling, and they ought to be different.

?*Aegintha optata* (Finsch & Hartlaub). (Type loc., supposed to be Upolu.)

?Upolu: Gräffe.

The unique type was sent by Gräffe from Upolu, in spirits, and is now in the Museum at Hamburg. Wigglesworth suggests it may be the immature of *A. temporalis*, and in all probability an introduced species. It must be something of this sort, or an odd native bird that has been misidentified; for no *Aegintha*, or anything related to it, is a native of Polynesia.

Eulabetidae (or Graculidae).

Aplonis atrifusca (Peale). (Type loc., Samoan Ids.)

----- Dr. Hüsker; C. H. White.

Samoan Ids.: Peale ("active and noisy"); Whitmee ("very common and exceedingly bold").

Savaii: Kubary; Whitmee (very common).

Tutuila: Peale; Pickering (MS.)--observed; Nicoll (fairly common); R. C. Reed.

Upolu: Peale; Gräffe; Pickering (MS.)--observed; Layard (common in little flocks); Nicoll (fairly abundant).

Aplonis brevirostris (Peale). (Type loc., Samoan Ids.)

----- Whitmee ("confined to the bush"); Rev. T. Heath (1846).

Various islands: Layard ("common throughout the island of Samoa").

Samoan Ids.: Peale ("not common").

Tutuila: Brenchley; R. C. Reed.

Upolu: Peale; Gräffe; Layard.

This ends what we know of the birds of Samoa, including the island of Gente Hermosa. What we don't know will have to be told us by Rollo H. Beck and his assistants. Before leaving the main islands of Samoa, it would be well to say that they are in about the same condition of ornithological exploration that the Hawaiian Ids. were in 1880. For many years the Hawaiian Ids. were "finished" as to birds, until someone about 1887 stumbled on the fact that they were unknown, and started to investigate them in a modern way. The result was that about 10 additional new genera were discovered. The same story may be repeated in Samoa; for these large mountain masses must contain more birds than we now know.

23. Birds of Niue or Savage Island.

Georg Forster (June 21, 1774) saw "some curlews, snipes, and herons" here.

Günther (P. Z. S., 1874, 295) refers to "a pretty little green bird with white feathers under the tail."

Treronidae.

Günther says doves and pigeons abound. His data was received from Rev. Mr. Lawes.

Ptilinopus perousei.

Whitmee.

Ptilinopus porphyraceus.

Brenchley (Brit. Mus.).

Whitmee (Brit. Mus.).

Townsend.

Ranfurly.

Ramsay named the Niue bird *P. whitmeei*.

Ptilinopus rarotongensis.

"?Savage Id. (Elliot)".

This looks like a mistake in locality, as it is unlikely that there can be three species of this genus on one island.

Globicera pacifica.

A specimen in Brit. Mus. is said to be from this island.

Rallidae.

Porzana tabuensis (Gmelin).

Whitmee.

Ranfurly.

Scolopacidae.

Heteroscelus incanus.

Ranfurly.

Loriidae.

Vini australis (Gmelin). (Type loc., Samoan Ids.)

Whitmee.

Townsend.

Ranfurly.

Günther (P. Z. S., 1874, 295) mentions parrots, probably meaning this species.

Cuculidae.

Urodynamis t. taitensis (Sparrman).

Ranfurly.

Micropodidae.

Collocalia francica townsendi Oberholser. (Type loc., Eua, Tongas.)

Townsend.

Ranfurly.

The small martin or swallow mentioned by Günther (P. Z. S., 1874, 295) is probably this species.

Campephagidae.

Lalage whitmeei Sharpe. (Type loc., Niue Id.)

Whitmee.

Townsend ("common").

Ranfurly.

This family, known as the Caterpillar-Shrikes, first appears in Samoa and Niue (when travelling west), and crops out on various groups toward New Guinea. The members may always be recognized by the stiffened shafts to the feathers of the upper tail-coverts.

Eulabetidae.

Aplonis brunnescens Sharpe. (Type loc., Niue.)

Whitmee.

Townsend. ("common.")

Ranfurly.

Not much real collecting has been done on this island. The Rev. Whitmee was a missionary and probably did not go into it very fully; Townsend had little time and collected around the village only; the Earl of Ranfurly probably relied on others to gather some stuff

together for him, to send the Brit. Mus., and other work has been of a hasty, scattered nature. Why not get a Conopoderas here?

8. Islands east and northeast of Samoa. (British, under New Zealand.)

Anchorage { islet at mouth of lagoon of Taka; about 80 acres in ex-
 Pass. { tent; inhab. Many cocoanuts have been planted; southern
 { half of islet has been "reserved for the British Admiralty."

Danger group { 3 ids. on an atoll $7\frac{1}{2}$ mi. e. w. by $4\frac{3}{4}$ mi. n. s.; lagoon
 { closed; landing dangerous. $100^{\circ} 53'$ S., $165^{\circ} 45'$ W. This
 { atoll is about 390 miles n. e. of Apia harbor, and about
 { 210 mi. n. w. of Taka (Suvarov). The islands are Motu-
 { kavata, Motukoe, and Pukapuka, with several smaller islets
 { and sand cays.

Famu { islet of Taka, is $2\frac{1}{2}$ mi. n. w. of Anchorage islet.

Koko [= Motukoe].

Motugaugau [= Nassau].

Motukavata { long and low; 125 ft. high to tree tops near s. end; unin-
 Ratoe. { hab. In Danger group.

Motukoe { 100 or more ft. high; wooded; uninhab. In Danger group.

Koko

Nassau { islet 1400 x 1000 yards, with fringing reef; 70 ft. high;

Motu- { very few inhab. (was uninhab. in 1863); coconut, screw
 gaugau. { pines, lime, banana and other trees occur; leased for coco-
 Ranger? { nut planting. $11^{\circ} 33' 20''$ S., $165^{\circ} 25'$ W., or $11^{\circ} 35' 46''$ S
 { $165^{\circ} 20' 44''$ W. About 45 mi. s. e. by s. of the Danger
 { group.

Pass [= Anchorage].

Pukapuka { n. id. of Danger group; 1 mi. in diam.; 80 ft. high; inhab.;
many cocoanuts. Landing is possible on n. and w. sides. Inhab.
said to be great thieves, though nominally Christians. (This
information may be now out of date.)

Ratoe [= Motukavata].

Souworoff [= Taka].

Suvarof [= Taka].

Suvaroff [= Taka].

Suvárov [= Taka].

Suwarrow [= Taka].

Taka {atoll with reef 8 mi. n. and s., and nearly as broad; "closed"

Souworoff. lagoon, but with opening on n. e. side; a few wooded
Suvarof.
Suvaroff. islets on e. reef, mostly on n. part; now inhab. (intro-
Suvárov. duced); low; guano; groves of cocoanuts have been plant-
Suwarrow. ed. The id. was leased to an Auckland firm until 1913.
When discovered (in 1814), it was "inhabited only by
birds, crabs, and rats, ****but no signs of people."
13° 13' S., 163° 09' 15'' W.

The Islas de San Bernardo of Mendaña may be the Danger group.

The Isla de Pescado of Gonzales may be the Danger group.

Ranger Island is thought to perhaps = Nassau.

8. Islands east and northeast of Samoa. (Birds).

Pigeons.

"Wild pigeons" are among the food supplies that "may also be obtained" in the Danger group, according to the Hydrographic Pilot, but the species is in doubt; possibly *Ptilinopus* or *Globicera*.

Terns (and probably other sea birds).

"Wide-awake" tern's eggs are much used for food at Taka (vide Hydrogr. Pilot).

Moss says the sea birds, including "small terns", breed in immense numbers on one of the "little islets" on the reef of the lagoon of Taka.

When Taka was discovered (in Sept., 1814), its approach was "indicated by large flocks of birds." The landing party found it "inhabited only by birds, crabs, and rats."

?Cuculidae.

Forbes and Robinson record *Urodynamis t. taitensis* (Sparrman) from "South Pacific (Suwarrows Island)," but they fail to indicate which of the three islands of similar name is meant. Suwarrow is a synonym of Taka, and there is a Suvarov or Suvarof in the Marshall group.

Altogether, there is little known of the birds of these islands, and this little is from non-ornithological sources.

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